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Recession, employment and self-rated health: a study on the gender gap



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ABSTRACT

Objectives: Employment status and economic recession have been associated with negative effects on self-rated health, and this effect differs by gender. We analysed the effects of the Spanish economic recession in terms of self-rated health, its differential effect among genders and its influence on gender gap.

Study design: Repeated cross-sectional study using Spanish health surveys (2001–2014).

Methods: Logistic regression models were conducted to explore the association between self-rated health and employment status and its evolution over time and gender. To test the impact of the economic recession, pooled data regression models were conducted.

Results: In this study, we considered 104,577 subjects. During the last 15 years, women have entered the labour market, leading to wide changes in the Spanish traditional family roles. Instead of an increasing proportion of women workers, gender employment differences persist. Therefore, in 2014, the prevalence of workers was 55.77% in men, whereas in women, it was 44.01%. Self-rated health trends during the economic recession differ by gender, with women improving slightly their self-rated health from a low self-rated health prevalence of 38.76% in 2001 to 33.78% in 2014. On the contrary, men seem more vulnerable to employment circumstances, which have led to substantial reduction in the gender gap.

Conclusions: Although a gender gap persists, the change in socio-economic roles seems to increase women self-rated health, reducing this gap. It is important to promote women labour market inclusion, even in economic recession periods.

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Introduction

From 1995 to 2007, Spain had one of the fastest growing gross domestic products (GDPs) in the European Union (EU).¹ During this period, women entered the labour market, but the female unemployment rate in Spain continued to be one of the highest in the EU. The global recession of 2007 broke this trend, leading to a drastic increase in unemployment, especially among young people² and to increasing job insecurity.³ This situation, that has been considered a potential threat to public health,⁴ has shown controversial results in Spain.^{5–7}

Many researchers have drawn attention to the negative effects of unemployment on self-rated health.⁸ Health-related mechanisms are linked to the material consequences and psychosocial effects of employment status.⁹ Historically, the impact of recession and unemployment on health has been higher on men,¹⁰ but some authors have pointed out its effect on women's health.¹¹ Women's importance as breadwinners increases during recession periods, when unemployment rates are higher in men than in women.¹² This change in gender roles, with women ceasing to be only 'unpaid household labour' and entering the labour market, has been considered as one of the main reasons of self-rated health improvement in women.^{12–14} Nonetheless, a common problem when analysing the impact of women's employment status on health is that 'unpaid household labour' is usually assigned to the spouse's occupation, which may misclassify current social circumstances.⁹ This differential classification gains special relevance in the Spanish context, where traditional attitudes related to social gender roles persist.^{15,16}

Therefore, it is important to determine whether unemployment, in a recession context, influences genders differently, and how this affects the traditional gender gap. To tackle this question, the aim of this article was to study the differences in self-rated health and the role of employment status on these differences by gender for the period 2001–2014.

Methods

Design and study population

We conducted repeated cross-sectional analyses using data from Spanish health surveys. Databases used were the Spanish National Health Surveys (NHS) developed in 2001, 2003, 2006, 2011–12, and the 2009 and 2014 European Health Interview Survey for Spain (EHIS). The NHS and EHIS are nationally representative, cross-sectional surveys of the resident population aged more than 15 years. Both surveys have a similar structure and record comparable data. The economic crisis of 2007 splits this period into two, with three surveys before and another three after the crisis onset.

The NHS has been implemented by the Spanish Health Ministry since 1987. The EHIS was proposed by the European Commission for EU Member States and implemented by the Spanish National Statistics Institute (INE). The 2009 EHIS was the first survey undertaken in Spain, and it was repeated in 2014, alternating with the NHS. The Health Ministry and the

INE work together to store the main data series and to guarantee data comparison. In all cases, data was obtained using conglomerated polytypic sampling, and information was collected by personal interview. Sample sizes varied from 29,478 in 2006 NHS to 21,007 in 2011–12. More details of survey methodologies can be found elsewhere.^{17,18} The study population was restricted to participants aged 25 years or more.

Variables included in the analysis

In order to determine the employment status, the question 'According to your present economic activity, what is your employment situation?' was used. Responses were codified into four categories: working, unemployed, pensioners and 'unpaid household labour'. Individuals that belonged to other categories or were non-responders were classified as 'missing'. 'Unpaid household labour'¹⁴ refer to people who only declare to be homemakers. There are people, especially women, who belong to other categories but at the same time are 'unpaid household labour'. Health surveys do not make this distinction.

Prevalence of low self-rated health was obtained from the question 'How would you rate your health in the last 12 months?' scored on a 5-point scale. It was regrouped into 2 categories: low self-rated health, when the answer was 'moderate', 'poor' or 'very poor' and good self-rated health, if the answer was 'good' or 'very good'.¹⁹

Statistical analysis

Statistical analysis comprised three phases. In the first phase, data for each survey were analysed separately. The estimated prevalence of low self-rated health in men and women were calculated for each survey, as well as the evolution of employment status by sex. In order to ascertain the gender effect, differences by men and women were calculated. To guarantee data comparability, analyses were standardised by age, taking the Spanish age distribution in 2001 (first year analysed) as reference. Standardised prevalences with their 95% confidence intervals (95% CIs) were obtained. When appropriate, analyses for trend were applied.

In the second phase, logistic regression models for each survey were used to explore the association between self-rated health and employment status and its evolution. Analyses were stratified by men and women and adjusted by age. Odds ratios (ORs) and their 95% CIs were obtained. The predictive capacity of employment for self-rated health was checked by the C statistic, defined as the area below the ROC curve (AUC). It can take values between 0.5 and 1, where 1 indicates perfect prediction, 0.5 implies low discriminative capacity.²⁰

In the third phase, to test the impact of recession, surveys were combined and a pooled data set was created. 2009 EHIS was chosen as the reference group, as this was the first survey conducted after and during the current economic crisis in Spain. Odds ratios and their 95% CI of low self-rated health by year of analysis compared to 2009 were computed. Different models were developed adjusting by potential confounders. Both models were stratified by men and women.

Weights available were used to avoid mistakes associated with survey design or individual non-responses within households. Analyses were carried out using IBM SPSS Statistics 22® and Stata 12® (Zaragoza University licence).

Results

104,577 Spanish adults were included in the study. Table 1 shows the evolution of self-rated health and employment status from 2001 to 2014 in Spain. In men, workers were the most frequent group and decreased by 5% during the period. At the same time, unemployed increased by more than 10%, and pensioners decreased by 5%. All these differences were statistically significant between the first and last year of the period. Men 'unpaid household labours' category was very small and although displayed, does not offer relevant data.

In women, the main category in 2001 was 'unpaid household labour' (40.69%). By 2014, they have decreased by 23%, to less than half before. In 2014, the main category for women was workers, which increased by 12% compared to 2001. Finally, in this period, women pensioners increased by 2% and unemployed by 9%. All these differences were statistically significant between the first and last year of the period.

In Fig. 1A–C, differences in employment, unemployment and pensioners' prevalence between men and women can be observed for the period 2001–2014. Differences in workers' prevalence by gender (Fig. 1A) decreased significantly (slope for trend = -0.014 ; $P < 0.0001$). There were also significant differences in unemployment status (Fig. 1B), (slope for trend = -0.0003 ; $P = 0.015$). Finally (Fig. 1C), differences in pensioners decreased significantly (slope for trend = -0.0054 ; $P < 0.0001$). We do not show differences in 'unpaid household labour' status because the prevalence in men is very small, and it shows the evolution of women only, as already showed.

In the period considered, low self-rated health was significantly higher in women than men (Table 1). In men, there were few changes in this status. Women's low self-

rated health prevalence decreased significantly from 2001 to 2014.

Fig. 1D shows prevalence differences in self-rated health in men with respect to women and their trend. Differences by gender decreased significantly over time (slope for trend -0.0020 , $P < 0.0001$), observing the lowest difference between men and women in 2014.

In Table 2, the association between self-rated health and employment status was considered, adjusted by age. Workers were chosen as the reference category because they showed the highest level of self-rated health. Belonging to any other employment status was significantly associated with worse self-rated health levels, for both men and women and all the years considered, except for men 'unpaid household labour'. C statistic showed a fair explanatory capacity of employment status on self-rated health.

In Table 3, risk of low self-rated health by year of analysis compared to 2009 is considered in three models, adjusted by different variables. For both men and women, there was a significantly higher risk of low self-rated health before the 2007 crisis. The three models suggest better self-rated health after the 2007 crisis in men and women, but this association was not significant after adjusting by socio-economic and medical variables.

Discussion

According to our results, there has been a profound change in Spain's gender roles from 2001 to 2014. This change, which has affected mainly women in a very fast pace, is unprecedented in Spain, and may have important consequences. A considerable proportion of women have left their traditional role as 'unpaid household labour' to join the labour market. The impact of the 2007 economic crisis has increased the prevalence of unemployment, both in men and women. Although there are still differences between men and women workers' prevalence, working women has remarkably increased. Self-

Table 1 – Prevalence of different employment status and low self-rated health in Spain before and after the 2007 economic crisis (2001–2014).

		Workers		Unemployed		Pensioners		Unpaid household labour		Low self-rated health	
		%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Male	2001	61.09	59.45–62.74	5.76	5.25–6.26	31.83	30.59–33.08	0.13	0.05–0.21	28.33	27.18–29.48
	2003	62.83	61.25–64.40	5.92	5.44–6.41	28.84	27.69–29.98	0.55	0.39–0.71	30.83	29.69–31.98
	2006	63.54	62.19–64.88	6.10	5.68–6.52	29.61	28.64–30.59	0.12	0.06–0.18	31.13	30.16–32.10
	2009	58.58	57.08–60.08	13.71	12.98–14.44	25.99	24.91–27.07	0.49	0.34–0.64	27.76	26.70–28.82
	2012	54.58	53.09–56.08	16.67	15.84–17.50	27.10	25.99–28.21	0.75	0.57–0.93	26.43	25.37–27.48
	2014	55.77	54.31–57.24	16.11	15.32–16.91	26.08	25.07–27.09	0.30	0.19–0.40	27.19	26.18–28.20
Femalerowhead	2001	32.32	31.45–33.19	7.52	6.98–8.05	18.41	17.80–19.01	40.69	39.72–41.67	38.76	37.84–39.69
	2003	39.67	38.82–40.52	7.71	7.19–8.23	16.14	15.56–16.71	34.09	33.20–34.98	39.33	38.45–40.22
	2006	43.65	42.94–44.36	7.88	7.43–8.33	19.24	18.76–19.73	28.34	27.61–29.07	41.48	40.71–42.25
	2009	45.18	44.33–46.03	12.32	11.69–12.96	17.84	17.30–18.37	23.66	22.86–24.45	34.67	33.86–35.49
	2012	44.59	43.72–45.46	13.21	12.54–13.88	17.58	17.01–18.15	23.36	22.57–24.16	33.88	33.01–34.75
	2014	44.01	43.17–44.86	16.44	15.74–17.14	20.20	19.68–20.72	18.03	17.33–18.73	33.78	33.00–34.61

Results are standardised by age and stratified by gender.

95% CI: 95% confidence interval.

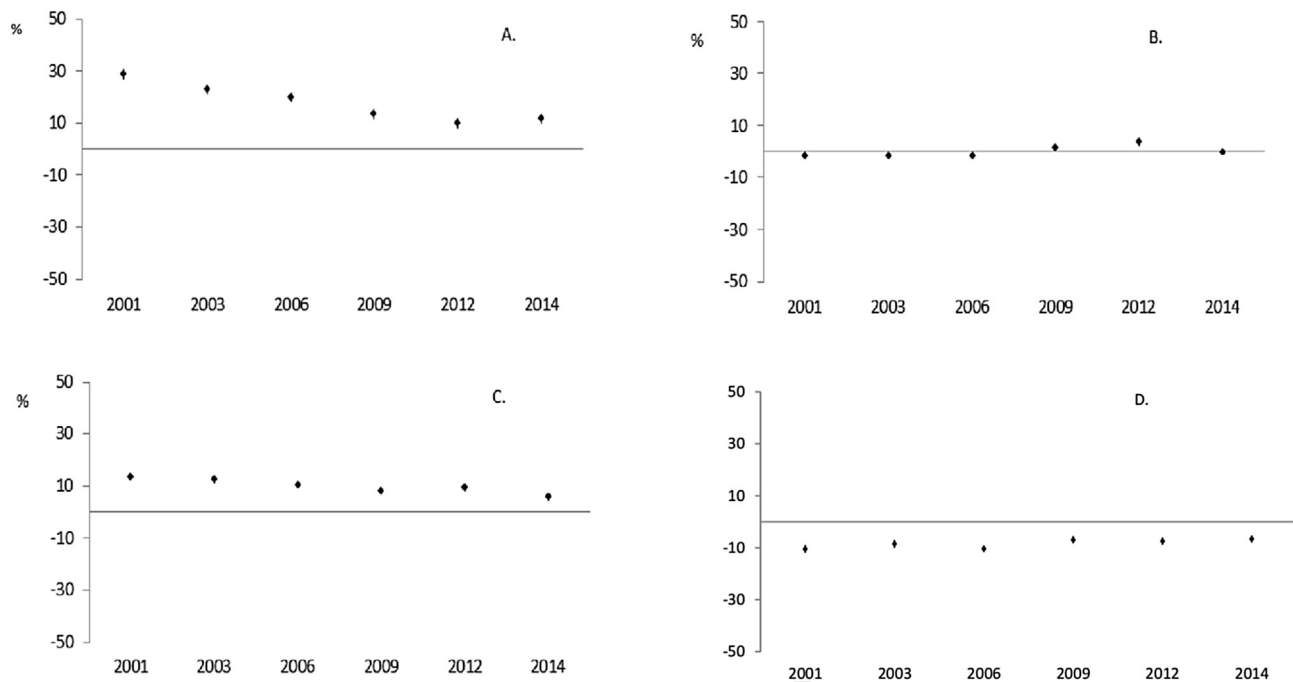


Fig. 1 – Differences in prevalence (%) of employment status (A–C) and low self-rated health (D) between males and females. 95% confidence intervals and their trend. Results standardised by age (Spain, 2001–2014).

rated health is worse in unemployed, pensioners and ‘unpaid household labour’ than workers. Finally, self-rated health has improved for women, although continues to be worse than men.

Women's employment rates have increased in most Western economies in the last decade. In Spain, the rates of gender gap remain significantly lower than that in other EU countries horizontally (women and men work in different economic's sectors) and vertically (lower women's progress up the career ladder).²¹ With the economic crisis, countries that experienced asset bubbles increased unemployment rates, especially in blue-collar workers. On the contrary, the service sector, where women mainly work, has had the lowest losses.^{22,23}

The importance of women as breadwinners in a recession context is widely known. During the Great American Recession, employment loss was lower in women than in men, and women found a job earlier.²⁴ In previous recessions, the change in family roles was also described, and women became, in many cases, the main earner.²⁵ Women abandoned progressively being ‘unpaid household labour’, which has never been considered as an economic activity and joined the professional world.^{26,27} Moreover, gender difference in the pursuit of higher education suggests that this trend will continue in the future.²⁵ This fact has also been observed in our study, with a significant increase in women employment rates and a progressive decrease in the number of ‘unpaid household labour’. Also, women market insertion has

Table 2 – Odds ratios (OR) and their 95% confidence intervals (95% CI) of low self-rated health for different employment status compared to workers, and C statistic value of the model (Spain, 2001–2014).

	Workers	Unemployed OR (95% CI)	Pensioners OR (95% CI)	Unpaid household labour OR (95% CI)	C statistic	
Male	2001	1	2.02 (1.64–2.50)*	3.29 (2.79–3.86)*	1.86 (0.50–6.83)	0.727
	2003	1	2.51 (2.07–3.04)*	2.65 (2.26–3.12)*	1.03 (1.02–1.03)*	0.726
	2006	1	1.55 (1.29–1.87)*	2.13 (1.83–2.47)*	0.88 (0.22–3.51)	0.710
	2009	1	1.79 (1.53–2.09)*	1.71 (1.43–2.06)*	1.05 (1.04–1.05)*	0.746
	2012	1	1.62 (1.40–1.88)*	1.64 (1.37–1.97)*	1.79 (1.03–3.14)*	0.723
	2014	1	2.16 (1.89–2.48)*	1.94 (1.63–2.31)*	3.30 (1.53–5.19)*	0.721
Female	2001	1	1.73 (1.43–2.09)*	1.63 (1.37–1.93)*	1.45 (1.28–1.63)*	0.720
	2003	1	1.40 (1.18–1.67)*	2.35 (2.01–2.76)*	1.58 (1.42–1.76)*	0.725
	2006	1	1.68 (1.47–1.91)*	1.75 (1.54–1.99)*	1.40 (1.28–1.53)*	0.710
	2009	1	1.63 (1.41–1.89)*	1.57 (1.33–1.85)*	1.47 (1.30–1.66)*	0.753
	2012	1	1.85 (1.61–2.13)*	1.88 (1.60–2.21)*	1.69 (1.49–1.91)*	0.741
	2014	1	2.04 (1.80–2.32)*	1.62 (1.39–1.90)*	1.86 (1.64–2.11)*	0.738

Logistic Regression adjusted by age and stratified by gender.

OR: Odds Ratios; 95% CI: 95% Confidence Intervals.

*Results are statistically significant.

Table 3 – Low self-rated health risk by year of analysis compared to 2009 (Spain, 2001–2014).

		Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)
Male	2001	1.05 (0.98–1.12)	1.15 (1.07–1.24)*	1.28 (1.19–1.38)*
	2003	1.20 (1.12–1.29)*	1.35 (1.26–1.45)*	1.44 (1.34–1.55)*
	2006	1.23 (1.15–1.32)*	1.37 (1.28–1.47)*	1.34 (1.25–1.44)*
	2009	1	1	1
	2012	0.92 (0.86–0.99)*	0.93 (0.87–1.01)	1.01 (0.98–1.13)
	2014	0.97 (0.90–1.04)	0.97 (0.91–1.04)	1.05 (0.98–1.13)
Female	2001	1.18 (1.11–1.25)*	1.17 (1.10–1.25)*	1.27 (1.19–1.35)*
	2003	1.22 (1.14–1.28)*	1.26 (1.18–1.33)*	1.32 (1.24–1.41)*
	2006	1.34 (1.27–1.41)*	1.40 (1.33–1.48)*	1.37 (1.29–1.45)*
	2009	1	1	1
	2012	0.91 (0.86–0.96)*	0.94 (0.88–1.00)	1.05 (0.99–1.12)
	2014	0.89 (0.84–0.94)*	0.91 (0.85–0.96)*	0.98 (0.92–1.04)

Logistic regression models stratified by gender.

Model 1: risk of low self-rated health adjusted by age; Model 2: risk of low self-rated health adjusted by age and employment status and Model 3: risk of low self-rated health adjusted by age, employment status and educational level and diagnosed morbidity.

OR, odds ratios; 95% CI: 95% confidence intervals.

*Results are statistically significant.

increased family workload because women keep doing the most housework.²⁸ This situation has been called as 'double workload'.^{15,29}

Many authors have described a protective effect of employment on self-rated health.^{30,31} In Spain, contradictory results have been observed. Arroyo et al.³² concluded that the probability of reporting poor health in 2006 was not significantly different than in 2011. Urbanos-Garrido and López-Valcárcel³³ did not find statistically significant differences in the percentage of self-declared poor health after the crisis for the total population. In contrast, Regidor et al.⁵ found a downward trend during recession, but in this case, the methodology was different from the rest. In Europe, a study considering the individual-level changes in self-rated health before and during the economic crisis found that the working-age population in European countries experienced an increasing trend in fair and poor self-health rated, regardless the severity of recessions. These results were observed in all countries except in Spain, where a declining trend was observed,³⁴ as it has been found in our study.

We have observed how differences between low self-rated health and gender decreased in the period studied, reducing the gender gap. Bambra affirms³⁵ that men are historically more vulnerable during economic downturns. Abebe et al.³⁴ found that women tended to be more affected than men before the crisis as well as among the severe recession countries. The growing participation of women in the labour market could also explain these results.^{36,37}

There are some implications for policy that could be extracted from these results. The lack of gender sensitiveness in information systems hampers gender research. In this sense, some questions should be added to health surveys, as information related to the number of working hours or the existence of 'double workload'. This could facilitate the interpretation of the relationship between employment and women wellness. As our study shows, the inclusion of women in labour market has positive effects on women's health even in recession periods. A special effort should be made to

promote women labour market insertion. Finally, policies to improve work reconciliation and family life are always necessary but are essential in recession periods, when women become the main earner. It is essential to be aware of the need for co-responsibility in household activities, to manage adequately the changing role in today's world.

This is the first study conducted in Spain during the economic recession where the changing role of employment in women has been observed, as well as the reduction on gender gap. Nonetheless, this study has some limitations. National Health Surveys are cross-sectional studies repeated in time: although they give a measure of time trend, they do not provide a person-time frame. There were very low numbers of male 'unpaid household labour'; therefore, these results must be considered cautiously. Other variables, such as income, could not be analysed because of the high number of missing values. On the other hand, surveys were representative at a national level, and direct standardisation allowed comparisons through time. Variables included in the analysis were collected and codified in the same way throughout the period, and the missing data did not exceed 1% in any of the surveys for the variables used.

In Spain in 2014, women continue to have lower employment rates and worse self-rated health than men. However, there is a positive evolution in the years studied, with an economic recession at the middle of the period. The change in socio-economic roles with progressive incorporation to the labour market has led to more women becoming main earners. This seems to increase their well-being as measured by self-rated health.

Author statements

Ethical approval

Ethical approval was not required due to the public and anonymous characteristics of micro-data.

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Competing interest

None declared.

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