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ORIGINAL ARTICLE

Youth unemployment and economic recession in Spain: influence on health and lifestyles in young people (16–24 years old)

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Abstract
Objectives To explore health status and lifestyles in young Spanish people in 2006 and 2012, the changes between these 2 years and the influence of employment status on health and lifestyles in this period.
Methods Cross-sectional analysis of the Spanish National Health Surveys 2006 and 2011/12 in people 16–24 years old (3701). Regression analyses for pooled cross-sectional data were developed. Employment status was considered as explanatory variable of health (self-rated health, diagnosed morbidity and mental disorders) and lifestyles (overweight, tobacco and alcohol consumption).
Results Male unemployment was associated with poor self-rated health (OR 1.88; CI 95 % 1.00–3.53), mental disorders (OR 2.42; CI 95 % 1.02–5.76) and tobacco consumption (OR 1.62; CI 95 % 1.00–2.62). During the economic recession, young people presented better health results than in 2006. Unemployed who had never worked consumed less tobacco and alcohol than short-term unemployed.
Conclusions Unemployment was associated in young men with poor self-rated health, mental illness and tobacco consumption. Despite the economic recession, young people presented better self-rated health, diagnosed morbidity and mental health in 2012 than in 2006, especially in women.

Keywords Youth unemployment · Health surveys · Health · Lifestyles · Economic recession

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Introduction

The economic recession that began in 2008 has had a particularly severe impact in Spain. From 1995, Spain enjoyed a period of sustained economic development, with an average annual gross domestic product (GDP) among the fastest growing in the European Union (EU). When the housing boom collapsed in 2007, the Spanish economy contracted and a financial ('bailout') rescue plan was finally required in 2012. This economic situation was accompanied by an increased government deficit, a reduction of the social services budget and an ever growing number of people living below the poverty line (Legido-Quigley et al. 2013). In Spain, the impact of the economic recession on health has been documented in adults. The current economic situation has been found to be associated with a negative impact on self-rated and mental health (Urbanos-Garrido and Lopez-Valcarcel 2014; Bartoll et al. 2014), although some authors (Regidor et al. 2014) have documented an improvement. In Europe, the economic recession has been associated with a reduction of first birth hazards (Neels et al. 2013) and a higher risk of mental illness (Shi et al. 2011).

One of the consequences of the recession was the dramatic increase in unemployment rates. At the beginning of

2013, unemployment in Spain was over 27 % and this was especially serious for people under 25 years, with youth unemployment as high as 57 % (INE 2013). In this context, the challenges faced by young people have multiplied. School leavers (23.6 % in Spain in 2013) compete with more jobseekers for fewer vacancies, young people in the labour market are more likely to be in temporary jobs and are at high risk of long-term inactivity and exclusion (OECD 2009). The youth unemployment rate is expected to remain at a high level for many years and people will experience prolonged periods of joblessness (Scarpetta et al. 2010). This has forced many young Spaniards to return to their parents' home, move to rural areas or emigrate (Boura 2013).

The influence of employment status on health has been widely described. Unemployed people suffer poorer health than the employed, with poor self-rated health (Bambra and Eikemo 2009) and a higher risk of mortality and debilitating illnesses (Roelfs et al. 2011; Bartley et al. 2004). Unemployment has also been associated with a higher prevalence of risk behaviours, such as smoking, excessive alcohol consumption and less healthy lifestyles (Stuckler et al. 2009). For young people, these risks are potentially higher. Failure to find a first job can have negative long-term consequences on happiness, job satisfaction and health (Bell and Blanchflower 2009, 2010). Helgesson et al. (2013) found that unemployment at a young age was linked to later-in-life problems of sickness, disability and even death. Unemployment threatens the integration of young people into society, and this is particularly true in the case of long-term unemployment (Hammer 2003). The negative effects of unemployment tend to be exceptionally harmful when the most disadvantaged youth become unemployed, involving social and economic costs (Bell and Blanchflower 2010).

According to other studies developed in similar contexts, both health and lifestyles should have worsened with respect to the previous situation. The aim of this study was to know health status, in terms of self-rated health, diagnosed morbidity and mental health, and lifestyles in young Spanish people in 2006 and 2012, the changes between these 2 years and to explore the influence of employment status on health and lifestyles in this period. The study population was Spanish people aged 16–24 years.

Methods

The study was based on repeat cross-sectional analyses of two Spanish National Health Surveys. The databases used were the Spanish National Health Surveys (ENSE) of 2006 and 2011/12. The ENSE is a representative cross-sectional survey of the non-institutionalised population of Spain that has been undertaken by the Spanish Ministry of Health (MoH) since 1987. Data were obtained using conglomerate polytypic sampling and information was collected by personal interview. Fieldwork took place between June 2006 and July 2007 and the same months for the 2011/12 survey. Sample sizes were 29,478 for 2006 and 21,007 for 2011/12. Survey comparability was guaranteed by the use of the same methodology and questionnaire. Micro-data were obtained from the MoH website. More details of survey methodologies are described elsewhere (MoH 2006, 2012). The population analysed was restricted to participants aged 16–24 years. Both surveys had the same age distribution. A sample size of 3701 subjects was obtained (ENSE 2006: 2168; ENSE 2011/12: 1533).

Socioeconomic and employment variables

Variables included in the analysis were collected and codified in the same way throughout the period. Educational level was classified as low, medium or high, in accordance with the International Standard Classification of Education (ISCED). Low educational level corresponded to ISCED 0–1; medium to ISCED 2–4; high educational level was 5–6. Family social class was classified by the Classification of Occupational Social Class (CSO) for 1995 and 2012, following the Spanish Epidemiology Society (SEE) recommendations (Domingo-Salvany et al. 2013). Social class was grouped as executive, medium-qualified and semi/non-qualified employees.

Employment status was ascertained by asking the question "According to your current economic activity, what is your situation?" Young people were classified into three categories: working, unemployed and students. The periods of unemployment were: (1) those that had never worked; (2) those that had been unemployed for less than 1 year (<1); (3) those that had been unemployed for one year or more (≥1). The young people that were in work were classified according to the duration of their contract (<6 months, ≥6 months or a contract with no specific duration).

Outcome measurements

Three different health concepts were considered: self-rated health, diagnosed morbidity and mental health. Self-rated health was measured by the question "How would you rate your health in the last 12 months?" given on a five-point scale. Results were regrouped into two categories: 'poor 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" (Manor et al. 2000). Diagnosed morbidity was obtained from the number of

diagnoses made by a medical practitioner; it was coded affirmatively if the subject had been ever diagnosed with at least one illness. 12 illnesses were taken into account (the same for both surveys): high blood pressure, diabetes mellitus, hypercholesterolemia, asthma, chronic bronchitis, cervical and lumbar disease, constipation, stomach ulcer, allergy, migraine and mental disorders. The general health questionnaire (GHQ-12) was used to determine the current state of mental health. This test is a screening tool to detect mental health problems in general population (Goldberg and Williams 1988); a positive result is a score higher than 3. A number of variables were used to evaluate lifestyles: body mass index (BMI) was calculated from self-declared height and weight. Individuals with BMI $\geq$25 were considered as being overweight. Tobacco consumption was classified into two ways: (1) using the four categories used in the survey (daily smoker, occasional smoker, ex-smoker and never smoked); (2) the two categories of tobacco consumption: 'non-smoker' (ex-smoker and never smoked) and 'smoker' (daily smoker and occasional smoker) Alcohol consumption was determined by the question "Have you consumed alcohol in the last 2 weeks?".

Statistical analyses

A descriptive analysis was undertaken to explore socioeconomic employment conditions, health and lifestyles in 2006 and 2012. The analyses were stratified by gender and the Chi square test was applied to explore differences over time for each gender. Logistic regression models (enter method) for each survey were conducted to study the influence of employment status on health and lifestyles. Analyses were stratified by gender and adjusted by age. Odds ratios (OR) and their confidence intervals 95 % (CI 95 %) were obtained.

To evaluate the impact of employment status and the economic recession, both surveys were combined, and a dummy variable for the survey year created a new dataset (Zavras et al. 2012; Katikireddi et al. 2012; Palacios-Ceña et al. 2011). The ENSE-2006 was chosen as the reference group, as this survey took place prior to the economic crisis in Spain. OR adjusted by age and stratified by gender were obtained. The predictive capacity of the models was tested by means of the *C* statistic—defined as the area under the ROC curve (AUC). The ROC curve is the plot of sensitivity vs. one minus specificity over all possible thresholds. The *C* statistic takes values between 0 and 1, where 1 indicates a perfect prediction and 0.5 low discriminative capacity (Austin and Steyerberg 2012). A new logistic regression analysis was conducted dividing the unemployed into three categories according to the time of unemployment (never worked, unemployed <1 year and $\geq$1 year). The objective of these analyses was to explore the influence of time of unemployment and economic recession on health and lifestyles. Analyses were adjusted by age and stratified by the without work.

Missing values were eliminated. With the exception of BMI (10 % missing), the outcomes did not exceed 5 % missing values. The IBM SPSS Statistics 19® (University of Zaragoza license) was the statistical software. Weights available for both surveys were used to avoid mistakes associated with survey design or individual non-responses within households. The Spanish Health Ministry encourages the use of this information and allows the public access to anonymous micro-data; so ethical approval was not required.

Results

Table 1 gives the results of the descriptive analysis. With regards to employment status and unemployment period, there were differences by year for both genders ($p < 0.001$). Working men decreased from 44.2 % in 2006 to 17.2 % in 2012. There was an increase in unemployed young men from 8.1 % in 2006 to 19.8 % in 2012 and in the percentage of students (47.7 to 63.0 %). In women, the number of workers also decreased (36.0 to 17.1 %) and students increased from 52.2 % in 2006 to 67.5 % in 2012. The percentage of young people who had never worked increased in 2012, especially in men. In health status, poor self-rated health in both gender and diagnosed morbidity and mental health risk in women showed statistically significant differences by year. The prevalence of poor self-rated health decreased in 2012 compared to 2006 for both genders; women presented worse self-rated health than men. In women, diagnosed morbidity and mental health decreased in 2012 compared to 2006 ($p \leq 0.001$), but this trend was not observed in men. In relation to lifestyles, changes in tobacco consumption were observed in women, with a decrease in daily smokers and a higher frequency of women who had never smoked ($p < 0.001$). Men consumed less alcohol also in 2012 than in 2006 ($p = 0.015$).

Table 2 shows the influence of employment status on health and lifestyles, using the 'working' category as a reference. Some of the variables showed a statistically significant association. In men, unemployment was a risk factor for poor self-rated health, compared to people in work (OR 1.88; CI 95 % 1.00–3.53) in 2006. In 2012, unemployed young men also had a greater risk of current mental health problems (OR 2.42; CI 95 % 1.02–5.76) and tobacco consumption (OR 1.62; CI 95 % 1.00–2.62) than those employed. In contrast, students were at less risk of poor self-rated health, overweight and tobacco

Table 1 Employment conditions, health and lifestyles, for young people in Spain (16 to 24 years)

	Men			Women		
	Year of survey		*p*	Year of survey		*p*
	2006	2012		2006	2012	
Employment						
Employment status						
Workers	447 (44.2)	129 (17.2)	0.000*	373 (36.0)	137 (19.2)	0.000*
Unemployed	82 (8.1)	148 (19.8)		122 (11.8)	95 (13.3)	
Students	483 (47.7)	472 (63.0)		541 (52.2)	482 (67.5)	
Unemployment period[a]						
Never worked	12 (15.2)	34 (22.8)	0.001*	29 (24.0)	25 (26.3)	0.000*
<1 year	57 (72.2)	69 (46.3)		83 (68.6)	41 (43.2)	
≥1 year	10 (12.7)	45 (30.9)		9 (7.4)	29 (30.5)	
Health						
Poor self-rated health	91 (8.7)	42 (5.4)	0.009*	190 (17.0)	70 (9.2)	0.000*
Diagnosed morbidity[b]	383 (36.5)	249 (32.3)	0.057	585 (52.2)	280 (36.8)	0.000*
GHQ12 >3	112 (11.5)	86 (11.2)	0.877	235 (22.3)	108 (14.4)	0.000*
Lifestyles						
BMI ≥25	245 (25.3)	176 (23.7)	0.457	176 (16.9)	119 (16.3)	0.740
Tobacco consumption						
Daily smoker	262 (25.0)	182 (23.7)	0.155	324 (28.9)	167 (21.9)	0.000*
Occasional smoker	64 (6.1)	43 (5.6)		42 (3.8)	32 (4.2)	
Ex smoker	56 (5.3)	26 (3.4)		75 (6.7)	34 (4.5)	
Never smoked	667 (63.6)	518 (67.4)		679 (60.6)	529 (69.4)	
Alcohol consumption[c]	649 (61.9)	434 (56.3)	0.015*	520 (46.4)	332 (43.8)	0.262
Total	1048	772		1120	761	

Weighed data: Spain, 2006–2012

p Chi square test, *GHQ-12* general health questionnaire, *BMI* body mass index

* Statistically significant results

[a] People whose current employment status was unemployed

[b] Illnesses considered: high blood pressure, diabetes mellitus, hypercholesterolemia, asthma, chronic bronchitis, cervical and lumbar disease, constipation, stomach ulcer, allergy, migraine and mental disorders

[c] The two previous weeks

consumption than the young employed; for men in 2006 and in 2012, this association remained for tobacco consumption.

In women, no statistically significant association was observed between unemployment and health or lifestyles. Student presented in 2006 lower poor self-rated health, overweight and tobacco consumption than working women. In 2012, this association remained for overweight and tobacco consumption, but disappeared in self-rated health.

Both datasets were combined (Table 3) to examine the impact of the economic recession. After adjusting by age and stratified by gender, better health results were observed for 2012 than 2006 in women. Self-rated health, diagnosed morbidity and mental health improved in women in year 2012 with respect to 2006 and tobacco consumption decreased (OR 0.79; CI 95 % 0.64–0.99). Using employment as reference, there was no association between unemployment and health and lifestyles in young people. Students of both gender presented a less risk of poor self-rated health and tobacco consumption than workers. Student women had a lower risk of overweight (OR 0.43; CI 95 % 0.30–0.60) than workers. The highest predictive capacities were observed in tobacco consumption and poor self-rated health models.

When the time of unemployment was considered (Table 4) in men, a higher risk of mental illness was observed with long time of unemployment (OR 2.33; CI 95 % 1.09–4.99) with respect to workers. Poor self-rated health improved in 2012 with respect to 2006 in men. In women, alcohol consumption was lower in those who never worked with respect to workers. An improvement for the three health outcomes evaluated was observed in 2012. The

Table 2 Influence of employment status on health and lifestyles in young Spanish people

	2006				2012			
	Unemployed[a]		Student[a]		Unemployed[a]		Student[a]	
	OR	CI 95 %	OR	CI 95 %	OR	CI 95 %	OR	CI 95 %
Men								
Poor self-rated health	1.88*	1.00–3.53	0.33*	0.18–0.61	2.12	0.76–5.90	0.96	0.34–2.73
Diagnosed morbidity	1.07	0.66–1.73	0.97	0.71–1.31	0.73	0.44–1.22	0.94	0.60–1.48
GHQ-12 >3	0.92	0.41–2.08	0.86	0.53–1.39	2.42*	1.02–5.76	1.92	0.83–4.41
BMI ≥25	1.45	0.86–2.44	0.63*	0.44–0.91	1.10	0.64–1.90	1.03	0.63–1.70
Tobacco consumption[b]	1.04	0.64–1.69	0.50*	0.36–0.69	1.62*	1.00–2.62	0.48*	0.30–0.76
Alcohol consumption	1.05	0.64–1.74	1.05	0.77–1.42	1.32	0.79–2.22	1.40	0.88–2.21
Women								
Poor self-rated health	1.12	0.68–1.85	0.55*	0.36–0.82	1.57	0.65–3.78	1.24	0.57–2.72
Diagnosed morbidity	0.76	0.50–1.15	0.83	0.61–1.12	1.21	0.71–2.06	1.17	0.75–1.83
GHQ-12 >3	1.30	0.81–2.08	0.87	0.60–1.25	1.16	0.57–2.36	1.21	0.67–2.21
BMI ≥25	0.86	0.51–1.45	0.40*	0.26–0.61	1.05	0.56–1.99	0.48*	0.27–0.85
Tobacco consumption[b]	0.97	0.64–1.48	0.47*	0.34–0.65	1.24	0.72–2.13	0.61*	0.38–0.98
Alcohol consumption	1.21	0.79–1.84	0.93	0.69–1.26	1.44	0.85–2.45	1.30	0.84–2.02

Logistic regression analyses adjusted by age and stratified by gender and survey year. Spain, 2006–2012

OR odds ratios, *CI 95 %* confidence interval 95 %, *GHQ-12* general health questionnaire, *BMI* body mass index

* OR statistically significant

[a] Reference category: working

[b] This category combines "daily smokers" and "occasional smokers"

Table 3 Influence of employment status and survey year on health and lifestyles in young Spanish people

	Employment status				Survey year		*C* statistic
	Unemployed[a]		Student[a]		2012[b]		
	OR	CI 95 %	OR	CI 95 %	OR	CI 95 %	
Men							
Poor self-rated health	1.60	0.96–2.67	0.45*	0.28–0.74	1.08	0.99–1.18	0.661
Diagnosed morbidity	0.84	0.60–1.17	0.96	0.75–1.23	0.84	0.68–1.04	0.537
GHQ-12 >3	1.37	0.82–2.27	1.07	0.71–1.59	0.89	0.64–1.23	0.504
BMI ≥25	1.08	0.76–1.55	0.76	0.57–1.01	1.04	0.81–1.33	0.605
Tobacco consumption[a]	1.32	0.95–1.83	0.48*	0.37–0.63	0.97	0.77–1.21	0.679
Alcohol consumption	0.91	0.65–1.27	0.88	0.69–1.14	0.88	0.72–1.08	0.640
Women							
Poor self-rated health	1.16	0.76–1.78	0.66*	0.46–0.94	0.52*	0.38–0.71	0.616
Diagnosed morbidity	0.90	0.65–1.25	0.92	0.72–1.18	0.55*	0.45–0.67	0.601
GHQ-12 >3	1.22	0.83–1.81	0.96	0.70–1.31	0.61*	0.47–0.79	0.569
BMI ≥25	0.91	0.61–1.36	0.43*	0.30–0.60	1.12	0.85–1.49	0.608
Tobacco consumption[a]	1.03	0.74–1.43	0.51*	0.39–0.66	0.79*	0.64–0.99	0.626
Alcohol consumption	0.79	0.57–1.10	0.96	0.75–1.24	0.88	0.72–1.08	0.596

Logistic regression analyses of the combined dataset (2006 and 2012) adjusted by age and stratified by gender. Spain, 2006–2012

OR odds ratios, *CI 95 %* confidence interval 95 %, *GHQ-12* general health questionnaire, *BMI* body mass index

* OR statistically significant

[a] Reference category: working

[b] Reference category: year 2006

Table 4 Influence of time of unemployment and survey year on health and lifestyles in young Spanish people

	Employment status						Survey year		*C* statistic
	Never worked[a]		Unemployed <1 year[a]		Unemployed ≥1 year[a]		2012[b]		
	OR	CI 95 %	OR	CI 95 %	OR	CI 95 %	OR	CI 95 %	
Men									
Poor self-rated health	1.44	0.50–4.09	1.75	0.97–3.14	1.00	0.35–2.85	0.61*	0.39–0.94	0.656
Diagnosed morbidity	0.74	0.38–1.46	1.00	0.66–1.50	0.55	0.28–1.06	0.86	0.69–1.06	0.545
GHQ-12 >3	0.60	0.17–2.11	1.30	0.70–2.43	2.33*	1.09–4.99	0.88	0.63–1.21	0.521
BMI ≥25	0.85	0.40–1.79	1.26	0.82–1.94	0.86	0.46–1.63	1.06	0.83–1.36	0.607
Tobacco consumption[a]	1.39	0.73–2.65	1.37	0.92–2.04	1.31	0.74–2.32	0.96	0.76–1.20	0.680
Alcohol consumption	0.94	0.50–1.77	1.03	0.67–1.58	0.69	0.38–1.24	0.89	0.72–1.09	0.640
Women									
Poor self-rated health	1.40	0.67–2.91	1.05	0.62–1.78	1.35	0.54–3.35	0.51*	0.37–0.70	0.620
Diagnosed morbidity	1.18	0.66–2.10	0.83	0.56–1.23	0.88	0.45–1.75	0.54*	0.44–0.67	0.602
GHQ-12 >3	1.22	0.61–2.45	1.20	0.75–1.92	1.41	0.63–3.17	0.60*	0.46–0.78	0.571
BMI ≥25	1.39	0.72–2.66	0.59	0.34–1.03	1.34	0.62–2.92	1.10	0.83–1.45	0.615
Tobacco consumption[a]	0.57	0.30–1.09	1.34	0.90–1.98	0.94	0.47–1.87	0.81	0.65–1.00	0.634
Alcohol consumption	0.53*	0.29–0.98	1.05	0.70–1.56	0.55	0.28–1.10	0.90	0.74–1.10	0.598

Logistic regression analyses of the combined dataset (2006 and 2012) adjusted by age and stratified by gender. Spain, 2006–2012

OR odds ratios, *CI 95 %* confidence interval 95 %, *GHQ-12* general health questionnaire, *BMI* body mass index

* OR statistically significant

[a] Reference category: working

[b] Reference category: year 2006

models related to tobacco consumption showed for both genders the highest predictive capacities.

Discussion

Unemployment increased in young Spanish people in 2012, especially in men. An improvement in self-rated health was observed for both gender, and in diagnosed morbidity and mental health in women. Unemployment has been linked to a higher risk of poor self-rated health, mental illness and tobacco consumption. Being a student appears to be a protective factor against poor self-rated health, overweight and tobacco consumption for both genders.

However, our results indicate that young Spanish people presented better health levels in 2012 than in 2006, a period of high unemployment and economic recession, especially in women. These results were consistent when the time of unemployment was taken into consideration. Young men with long-time unemployment (more than 1 year) presented a higher risk of mental health than those young men who were working. Also, women who had never worked presented a lower risk of alcohol consumption than those who were working.

Unemployment has shown a negative association with poor self-rated health, mental illness and tobacco consumption in young men. The fact that better health results were observed for young Spanish people in 2012 than in 2006 contrasts with the results obtained for the general population in countries such as Greece (Zavras et al. 2012), where poor self-rated health has been associated with the economic crisis, or England (Katikireddi et al. 2012), where there was a deterioration in mental health, although it was not associated with differences in employment status. In spite of the fact that the results of our work are different to other studies conducted in Spain, where an increase in mental health disorders during the economic crisis has been observed (Gili et al. 2013; Bartoll et al. 2014), we agree that there is a clear association between unemployment and mental health disease in young Spanish people, especially in men with long-term unemployment. The vulnerability of men during economic recession has also been observed by other authors (Lopez Bernal et al. 2013) who found a higher risk of suicide. Nonetheless, when comparing different countries, the prevalence of psychological problems declined in young people in the economic recession period (Pfoertner et al. 2014).

Some aspects should be considered to explain these results. First of all, young people present particularities that must be taken into consideration. The Spanish housing boom altered the labour market and is believed to be one of the causes of the increase in high-school dropouts. In 2005, more than 29 % of high-school students abandoned their studies to enter the labour market and more than 23 % of these found jobs in construction (Aparicio 2010). School leavers are seen as a vulnerable population: they accumulate social disadvantages and have difficulty in finding stable employment (Scarpetta et al. 2010). With the present economic climate, many young people appear to have returned to education (Bell and Blanchflower 2009), with a significant increase in the student population, which has been seen in this study as a protective factor for both health and lifestyles. On the contrary, the protective factor of work may be not so clear in young people. Working adolescents have been described to present worse lifestyles, as tobacco and alcohol consumption, because of their exposure to older co-workers (Wu et al. 2003). So, the recent changes of employment status in young Spanish people could have had a positive influence on health and lifestyles that should be conveniently studied.

The positive trend in health and lifestyles in the economic recession context could be due to the fact, as suggested by other researchers, that, in difficult economic times, people may adopt healthier lifestyles, smoking and drinking less and participating in more physical activity (Ruhm 2000; Granados 2005). In addition, the health effects of unemployment may be modified by context (Turner 1995). It has been argued that the stress caused by unemployment may decrease during economic recession as unemployment is more widespread. Similarly, when unemployment rates are high, the unemployed may be more heterogeneous and healthier (Ahs and Westerling 2006).

In this situation, context is a key aspect for understanding results, especially when the health outcomes considered are subjective (as is the case with our study). Nonetheless, similar trends have been observed when objective measures have been used (Regidor et al. 2014). A time scale perspective might also prove useful, as it is known that some health effects of economic recessions manifest themselves when the economy recovers (Stuckler et al. 2009). This has also been observed in young people with respect to youth unemployment (Helgesson et al. 2013), so further research is required. Finally, strong social support can mitigate health risks during economic recessions (Barr et al. 2012). While integration in social networks is a key aspect in Northern Europe, in Southern Europe, the family network is the most important factor (Hammer 2003) and could play a fundamental role in Spain, with strong family relationships and low levels of youth emancipation.

As far as we are aware, although other studies have been conducted in Spain to explore the association between unemployment and health in the context of the current recession (Urbanos-Garrido and Lopez-Valcarcel 2014), this is the first study that specifically contemplates young people and the influence of youth unemployment. The use of a large, nationally representative dataset is the main strength of this work. Employment status results present a high concordance with those obtained using different data sources (Eurostat 2013).

However, this study is not without its limitations. First of all, it only considers two different temporal moments (before and during the economic crisis). A longitudinal study, with information for the whole period, could offer a better perspective of the impact of economic recession. Nonetheless, continuity in data collection allows for the analysis of changing dynamics (Campostrini et al. 2011). Results in the unemployed group should be viewed with caution, due to the low number of subjects. The available information did not allow us to determine if those who were unemployed were actively seeking work. The duration of the contract of employment should also be carefully interpreted, due to the high number of missing values. All the variables were self-reported, so different results could be obtained in comparison with the administrative database (Aguilar-Palacio et al. 2014). Finally, diagnosed morbidity in this age group could also be seen as a limitation, due to the low prevalence and diversity of illnesses included in the analysis. Reverse causality might also be considered, though this would not be expected to have a high impact among young people.

Further research is required to develop stable and accurate indicators, longitudinal studies and specific policies. In Spain, budgetary restraints are being accompanied by structural changes, especially in the healthcare sector (Legido-Quigley et al. 2013; Gene-Badia et al. 2012). Many social researchers contend that the policies of austerity are worsening the current situation (McKee et al. 2012). Instead of further austerity measures, more investment in schooling is advisable to produce an educated workforce and reduce youth unemployment (Limb 2011). In the short term, it is necessary to offer adequate income support to young people at risk of losing contact with the labour market. Reducing the gap between temporary and permanent contracts would help to provide a smoother transition to stable jobs. The ongoing Spanish crisis could be considered as an opportunity to tackle the underlying factors affecting the school-to-work transition (Scarpetta et al. 2010), reducing high-school dropout rates and ensuring that young people approach the labour market with valued and practical qualifications.

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