Socio-economic inequalities in health in Catalonia

by

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Abstract

In this paper we measure the degree of income related inequality in mental health as measured by the GHQ instrument and general health as measured by the EQOL-5D instrument for the Catalan population. We find that income is the main contributor to inequality, although the share of inequality in mental health that can be explained by income is much greater than the corresponding share of inequality in general health. We also find that the variation in demographic structure reduces income related inequality in mental health and in general health. The regional variations in both instruments for health are striking, with the Barcelona districts faring relatively bad with respect to the rest of geographical areas and Lleida being the health region where, all else held equal, the population reports the greatest level of health. A big share of inequality in the two health measures, but specially mental health, is due to the favourable position in both health and income of those who enjoy an indefinite contract with respect to the rest of individuals. We also find that risky working conditions affect both health measures and are able to explain an important share of socio-economic inequality.

JEL classification: D63, I12, C21

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1. Introduction

In this paper we measure the degree of income related health inequalities in Catalonia using two distinct health instruments: the GHQ instrument for mental health and the Euroqol-5D instrument for general health. These measures are obtained from the latest representative survey for the Catalan population, the Enquesta de Salut de Catalunya [1], along with a wide set of demographic and socio-economic covariates which we use for modeling health. The study of Catalonia is motivated by the fact that, as early as 1981, this is the first region which gained responsibilities for health care in Spain. Also, Catalonia one of the regions with the highest percentages of i) contracting out to private providers of publicly financed health care and ii) double medical insurance coverage. A recent paper [2] evaluates the degree of income related inequalities in self assessed health and Catalonia ranks high in terms of inequality. With the analysis in this paper we attempt to explore further the socioeconomic correlates of health as measured by alternative instruments in a survey which is representative not only at the regional level but also at the more disaggregated "health region" level and Barcelona city district level.

This paper adds to existing literature on socio-economic health inequalities in Catalonia [3] by using individual, rather than aggregate, data and adopting a multivariate approach. That is, by controlling for as many socio-economic correlates of health, the results are able to provide an accurate picture of the relative contributions of income, activity status, region of residence etc. to the degree of health inequality. Moreover, controlling for confounding factors permits getting close to the "causal" effect of income. While the results presented in this paper cannot be given such causal interpretation at this stage, they go a step beyond the correlations well documented elsewhere in the literature.

Section 2 presents the methodology that we adopt for the measurement and modeling of health and the measurement of socio-economic health inequality. Section 3 briefly comments the data set used throughout the analysis. Section 4 presents the empirical results and section 5 concludes.

2. Methods

2.1 Measurement of health

In this paper we use two measures of health: the Euroqol-5D and the GHQ measure for mental health. These instruments map a vector of health indicators to a single index by means of adding the individual indicators according to a set of prescribed social values (weights).

The ESCAT 2002 questionnaire incorporates a reduced version of the General Household Questionnaire [4,5]. The GHQ was developed as a screening instrument for psychiatric illness and is now often used as an indicator of psychological well-being [6,7,8,9]. The shortened GHQ includes 12 elements: concentration, sleep loss due to worry, perception of role, capability in decision making, whether constantly under strain, perception of problems in overcoming difficulties, enjoyment of day-to-day activities, ability to face problems, loss of confidence, self-worth, general happiness, and whether suffering depression or unhappiness. Responses are given on a 4-point scale ranging from 0 to 3, with 0 being the best score. For our dependent variable we use the Likert scale, which sums the individual components [10]. This gives an overall scale that runs from 0 to 36. To make the interpretation of results more intuitive and consistent with the discussion in sections 3 and 4, we have re-scaled this measure in order to make it increasing in good health. Therefore we use GHQ'=36-GHQ rather than the original GHQ score.

Similarly, the Euroqol-5D is a screening instrument of wide use in primary care [11,12,13,14,15]. It contains 5 elements or health dimensions: mobility, ability to perform personal care activities, ability to perform daily activities (work, study, family care or leisure activities), pain and anxiety/depression. Responses are given on a 3 point scale ranging from 1 to 3, with 1 being the best score. For our dependent variable we add the scores for each of the 5 dimensions according to the set of weights given in Herdman, Badia and Berra [11]. This yield a health index ranging from 1 (best possible state) to 0.

2.2 Measurement and explanation of inequality

The literature on health inequalities has recently adopted a standard tool for the measurement of income related health inequalities: the concentration index (CI) of health on income [16]. The concentration index has a similar interpretation to the more familiar Gini index for pure health inequality. In fact, the two inequality measures differ in the fact that the ranking variable is income (CI) rather than health (Gini). As the Gini index, the CI ranges between –1 and 1. A value of –1 would mean that all health is concentrated in the poorest person, whereas a value of 1 would result if all health were concentrated in the richest person. A value of zero would mean that health is equally distributed over income in the sense that the pth percentage of the population ranked by income has exactly the pth percentage of total health for any p.

Suppose we are interested in calculating the CI coefficient for a measure of health using individual data in a sample from the population of interest. Let y_i denote a measure of health for the ith individual, i=1,2,…N, and R'_i denote the cumulative proportion of the population ranked by income up to the ith individual (their 'relative income rank').

Ignoring, for expositional purposes, the fact that in general sampling weights will be necessary, the CI of health on income is given by [17],

$$C = \left(\frac{2}{\bar{y}}\right) \mathrm{cov}(y_i, R'_i)$$

(1)

where $\bar{y} = E(y_i)$. Now let y_i be given by the following linear regression model

$$y_i = \boldsymbol{b}_1 + \sum_{k=2}^{K} \boldsymbol{b}_k x_{ki} + \boldsymbol{e}_i$$

(2)

where k is the number of regressors (*x*). By substituting this for y$_i$, the CI of y can be written as [18],

$$CI = \sum_{k=2}^{K}\left(b_k\,\frac{\overline{x}_k}{\overline{y}} \right)C'_k + \left(\frac{2}{\overline{y}} \right)\mathrm{cov}(e_i, R'_i)$$

(3)

The first term in brackets is the elasticity of y with respect to x$_k$ evaluated at the sample means ($\overline{x}_k$ and $\overline{y}$) and C'$_k$ denotes the concentration index of x$_k$ against income. Thus this inequality measure can be decomposed into an "explained part" and an "unexplained part". The "explained" part can be usefully broken down into the contributions of individual explanatory variables. As for the "unexplained" part, it is a scaled measure of the covariance of the residuals in the regression model with the position of the individual in the distribution of income. As such, the unexplained part should be zero if the regression model contains income as an explanatory variable [19].

If we define the estimated health elasticity with respect to determinant k as

$$\hbar_k \equiv \frac{\hat{b}_k\,\overline{x}_k}{m}$$

then we can rewrite the decomposition in a way such that the CI is just a weighted sum of the inequality in each of its determinants, with the weights equal to the elasticities. That is,

$$\hat{C} \equiv \sum_{k}\hbar_k\hat{C}_k + \left(\frac{2}{\overline{y}} \right)\mathrm{cov}(\hat{e}_i, R'_i)$$

As mentioned by van Doorslaer and Koolman [20], the decomposition also clarifies how each correlate of health contributes to total income-related health inequality: this contribution is the result of (i) its impact on health, and (ii) how unequally distributed over income it is.

2.3 Statistical Inference

Many of the statistics that we are going to report are non-linear functions of the data whose sampling distributions are hard to obtain. For this reason we shall use bootstrapping methods in order to derive standard errors. The bootstrap estimates for standard errors are computed following the five-step approach used by van Doorslaer and Koolman [20]. The number of replications has been set to 500.

3. Data and variable definitions

We use the 2002 edition of the Enquesta de Salut de Catalunya [1]. This is a survey representative of the Catalan population (both at the aggregate level and at the "health region level") living in households for the year 2002. We have restricted our analysis to individuals aged 16+.

The sampling scheme is a complex multi-stage stratified process whereby primary strata are "health regions". Within the latter, municipalities –or city districts in the case of Barcelona- (primary sampling units) are selected according to a proportional random sampling scheme. Finally individuals are selected from the primary sampling units using random sampling stratified by age. The information contained in the data files do not allow the identification of all the primary sampling units (because municipalities are not identified), so it is impossible to control for cluster effects. The survey documentation includes weighting factors that correct for the fact that the number of observations within the primary strata is not proportional to actual population. We use these weights in our computations.

The ranking variable is total monthly income earned by the household. Since the ESCAT 2002 does not contain information on income, we have resorted to the Catalan sample in the Spain wide Encuesta Nacional de Salud [21] in order to estimate the joint distribution of household income and some characteristics of the the household (number of women and men adults and number of children) and head of the household (education, activity status and occupation) for the Catalan population. In the Encuesta Nacional de Salud household income is measured as a categorical variable with 6 response categories, so we use an interval

regression specification for these purposes. The estimates from the latter model allow us to predict the household income for each individual in the ESCAT sample given information on the head of household, and this is subsequently divided by an equivalence factor equal to (number of household members)$^{0.5}$, to adjust for differences in household size.

The initial ESCAT sample included 8400 individuals, but 1332 individuals aged less than 16 were dropped. From the remaining 7068 individuals, 617 were dropped because their household income could not be predicted, 80 because their marital status or their educational attainment was missing and 533 because they had missing values for work characteristics or life styles. A further 261 individuals with missing values in any of the characteristics needed to construct the GHQ index are dropped. Similarly, 33 are dropped when constructing for the Euroqol-5D index. As a result, the estimating samples contain 5577 individuals for GHQ and 5805 individuals for Euroqol-5D.

4. Empirical results

4. 1 The joint distribution of health, income and other health covariates in Catalonia

We model the conditional distributions of GHQ and EQOL-5D as a linear function of socio-economic characteristics. It is useful to stress that this is not a structural model for health and therefore its estimates cannot be given a causal interpretation. However, it might be interpreted as a reduced form static model of demand for health whose estimates provide an indication of how exogenous changes in health determinants can affect the degree of socioeconomic inequality in health. The explanatory variables in this model are the following:

Household income
The logarithm of equivalent household income.

Age-gender demographics

14 age-sex categories corresponding to age groups 16-19, 20-24, 25-29, 30-34, 35-39,40-44,45-49,50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80+ for men and women. The omitted category corresponds to a woman aged between 16 and 19.

Geographical controls

17 geographical regions distinguishing between health regions: Tarragona, Tortosa, Girona, Costa Ponent, Barcelones north and Maresme, Centre; and Barcelona city districts: Ciutat Vella, Eixample, Sants-Montjuic, Les Corts, Sarrià-Sant Gervasi, Gràcia, Horta-Guinardó, Nou Barris, Sant Andreu and Sant Marti. The omitted category is the Lleida health region.

Marital Status

3 marital status categories corresponding to i) single or married ii) divorced or separated and iii) widowed. The omitted category is single or married.

Diet

A dummy variable that takes the value of one if the individual follows a diet for health reasons and zero otherwise

Type of physical activity during day

Distinguishing between i) sitting most of the time, ii) standing most of the time iii) walks frequently, iv) daily activities require an important physical effort. The omitted category is sitting most of the time

Exercise

Distinguishing between i) no physical activity whatsoever or a light activity during more than than 20 minutes per week, ii) a moderate or intense physical activity is done for more than 20 minutes per week. The omitted category is no physical activity whatsoever or a light activity during more than 20 minutes per week

Smoking habits

Distinguishing between i) current smoker, ii) ex-smoker and iii) never smoked. The omitted category is current smoker

Drinking habits

Distinguishing between i) frequent drinker, ii) ceased drinking for health reasons iii) nearly teetotal iv) complete teetotal. The omitted category is frequent drinker.

Risk at work

An index of risky conditions at work. 0 represents minimu risk and 1 represents maximum risk.

Activity status/type of contract

Distinguishing between i) voluntarily out of the labour market (i.e. pensioners, students and family care), ii) civil employee iii) indefinite contract, iv) temporal contract for less than 6 months, v) temporal contract from 6 to 11 months, vi) temporal contracts from 12 to 23 months, vii) temporal contracts for more than 2 years, viii) temporal contracts without time limit, ix) worker from a temporary work company, x) worker without a contract, xi) independent worker, xii) unemployed, xiii) disabled for work. The omitted category is voluntary inactivity (i.e. pensioners, students and family care).

Extra time

A dummy variable that takes the value of one if the individual does extra time at work and zero otherwise.

Type of working day

A dummy variable that takes the value of one if the individual does night shifts or irregular time shifts at work and zero otherwise.

Education

10 educational categories corresponding to i) illiterate ii) basic reading and writing iii) primary school iv) basic secondary school v) bachillerato vi) basic vocational training vii)

advanced vocational training viii) 3 years university degree ix) 4/5 years university degree x) postgraduate. <u>The ommitted category is postgraduate.</u>

4.1.1. GHQ instrument for mental health

The mean value for the GHQ score for Catalonia is 26.34. However, there is a good deal of variation around this figure depending on the set of covariates. The first column of table 1 presents the parameter estimates for the model of the conditional expectation of the GHQ measure of mental health. Note that the level of household income has a positive and significant value at the 10%. At the mean of the sample, the elasticity of this measure of health with respect to household income is 0.02. That is, an increase in household income of 10% is associated to a 0.2% increase in the GHQ measure of mental health. The age-gender controls show that the GHQ score decreases with age and that women report a smaller score than men all else held equal, although the differences are not significant. There are strong geographical variations too. Lleida is, all else held equal, the region with the highest average score. The Barcelona district with the greatest score is Les Corts, whereas the worst average score in Catalonia, *ceteris paribus,* is found in the districts of Gràcia and Horta-Guinardó. The district of Ciutat-Vella is very similar to Eixample in terms of average GHQ score and fares better than Sarrià-Sant Gervasi, the richest of Barcelona districts. These patterns are worth investigating in detail, for they could throw light on the hypothesis of relative versus absolute income. The marital status indicators show that, all else held equal, widows have the worst GHQ score and that divorcees also fare worse than the single or those who live as a couple. The control for being on a diet for health reasons has the expected sign, although it is not significant. Also as expected, the type of daily activity shows that those who spend most of the day sitting have on average a lower GHQ score than those who stand up, walk or, specially, do activities requiring an important physical effort. Moderate to intense exercise is associated to a greater GHQ score than doing no exercise or doing light exercise. Ex-smokers report a greater GHQ score than current smokers and the difference is not significant between never smokers and current smokers. However, frequent drinkers report a greater GHQ score than teetotalers or near teetotalers and, by a wide margin, those who quit drinking for health reasons. As expected, the estimate for the effect of the risk index shows that the GHQ score is decreasing with perceived risk. The activity

status controls show that the disabled fare worst in terms of GHQ, that the unemployed do not fare differently from those who do not participate in the labour market because of being in family care, in receipt of a pension or being a student and that individuals with an indefinite contract fare better.. Doing extra time is not significantly associated to a different average GHQ score than not doing extra time but, in contrast, those who work irregular shifts report a significantly smaller score than the rest of individuals. We estimate a positive gradient between educational attainement and reported GHQ. However, the effects are not significant at conventional levels.

4.1.1. EQOL-5D instrument for general health

The estimated average value for the EQOL-5D health instrument is 0.88. Many of the explanatory variables in the specification drive significant variations around this unconditional mean. Household income is positively associated to the score, but not significant at conventional levels. The size of the health elasticity is smaller than that found for mental health, 0.01. This suggests that income is a more important determinant of mental health than general health in the Catalonian population. The age-gender controls have a similar effect too. The EQOL-5D score decreases rapidly with age and, within most age brackets, women report a lower score. Lleida is again the region where the highest average health score is reported, together with the district of Sant Andreu. The geographical areas with the worst scores, all else held equal, are the district of Horta-Guinardó and Les Corts. Widows report a significantly lower score and divorcees do not report a significantly different score than singles or those living as a couple. The diet for health reasons has the expected sign and significance and, likewise, the daily physical activities controls also show that individuals who report the best score are those that, all else held equal, walk frequently during the day. Those doing moderate or intense exercise fare better than those doing no exercise or light exercise. Surprisingly, non-smokers do not report a significantly different score than current smokers and ex-smokers do not report a greater score than the other two groups. The results for the drinking habits show that those who quit drinking for health reasons have a lower score than the rest of individuals. Teetotalers and near teetotalers are no better than frequent drinkers. The result for the risk index is remarkable. Compared to those for whom the risk is maximum, those who work in a totally risk free environment

report, on average, a greater EQOL-5D score, and the difference amounts to 21% of the mean EQOL-5D score. As with the mental health score, the disabled report, unsurprisingly, a lower EQOL-5D score than the voluntary inactive, which in turn are no different than the unemployed. Neither doing extra time nor doing irregular shifts are associated to a different score than the respective default categories. In contrast with the results found for mental health, illiterates, those with basic literacy, those who completed up to primary school, basic secondary school, bachillerato or basic vocational training report a significantly lower level EQOL-5D score.

4.2 Decomposing income related health inequalities in Catalonia

Which are the factors that generate income related health inequality in Catalonia ? Table 1 provides the answer by showing the contribution of each explanatory variable to the concentration indices. Recall that the contribution of each of the regressors is the product of the elasticity of health and the concentration index of the regressor on income (Table 1 also reports the concentration indices for the latter too)

4.2.1. GHQ instrument for mental health

Household income is by far the main contributor to income related mental health inequality with a contribution of 102,5% of the explained concentration index. The age sex structure of the population actually contributes with a reduction of the concentration index. That is, if there were no differences in average mental health by age and gender, the concentration index would be 96% greater. This reduction is mainly driven by i) the fact that while women between 30 and 64 report on average a lower GHQ score, they are concentrated among high incomes and ii) the fact that while men between 16 and 29 report on average a greater GHQ score, they are concentrated among low incomes and iii) in contrast, men between 30-34 are concentrated in high incomes but report a lower GHQ. Geographical differences also contribute with a reduction to the observed concentration index. In this case, however, the effects are more heterogeneous. There are areas whose population report a lower GHQ and are also concentrated among low incomes. This is clearly the case of the Costa de Ponent,

Tortosa and Barcelonès nord-Maresme health areas and the Nou Barris district of central Barcelona. These areas contribute with an increase in income related health inequality. On the other hand there are areas whose population report a lower GHQ and are concentrated among high incomes. These are the cases of the districts of Eixample, Sarrià-Sant Gervasi and Gràcia. Overall, the net effect is negative. That is, geographically, Catalans who report low GHQ scores tend to be concentrated in areas with high incomes. The effects of being on a diet and doing moderate or intense exercise both augment the concentration index, but the reasons are different. While those on a diet report a lower GHQ, and tend to be concentrated in low incomes, those doing moderate or intense exercise report a greater GHQ and tend to be concentrated in high incomes. The variation in drinking habits contributes with 7.76% of the total index. This is driven by the fact that those who have quit drinking for health reasons report a substantially lower GHQ score and are concentrated in low incomes. The contribution of the risk index is positive. While risk decreases reported GHQ, those with less risky conditions tend to be concentrated in high incomes. The activity covariates explain 50% of the concentration index. That is, if there were no differences in GHQ by activity status, the concentration index would be 50% smaller. A closer look at the individual variables reveals that by far the main contributor is the indefinite contract status. These contracts are concentrated among high incomes and their holders report a greater GHQ score than those who are voluntarily inactive. A similar pattern is found for the civil service status, although the contribution is much smaller. Holders of temporary contracts are concentrated among low incomes, but since they report a greater GHQ score than the voluntarily inactive, these variables contribute with a reduction in the concentration index. The self-employed report a greater GHQ score too, and they are concentrated among high incomes, so this variable contributes positively to the concentration index. Unemployment is concentrated among low incomes and although it is not associated to a smaller GHQ than that reported by the default category, this variable contributes positively to the concentration index. Disability is also concentrated among low incomes and, by contrast, it is associated to a lower GHQ score, so it contributes positively to the concentration index. Variation in the take up of extra time and irregular shifts account for 4.89%% and –7.60%, respectively, of the concentration index. Individuals belonging to either of these categories report a lower GHQ score than the rest of individuals, but while those who do extra time are concentrated among low incomes, those on irregular shifts are concentrated among high incomes. As

mentioned earlier, the estimates suggest a positive gradient between eduaction and mental health, but we cannot rule out the null hypothesis of no significance for any of the educational dummy parameters. Likewise, the estimated contribution of education to income related inequality in mental health is positive but not significant for all but two educational categories The estimated overall contribution of education is 37.70% , reflecting the fact that lower educational categories are concentrated among low incomes and individuals with a university degree are concentrated among high incomes.

4.2.2. EQOL-5D instrument for general health

Income is also one of the main contributors to the concentration index of the EQOL-5D score on income. The size of the contribution, 30.66%, is much smaller than that observed for mental health, however. By contrast, the contribution of the age-sex structure to the concentration index of the EQOL-5D on income is negative and amounts to 53%. The pattern is similar to what we find in instrumental health: woment between 30-69 report a lower EQOL-5D score and are concentrated in high incomes. As far as the geographical effects are concerned, the population in the Costa de Ponent health region report a lower score than that of Lleida, and at the same time they are concentrated among low incomes, so this contributes positively to the overall concentration index. Nevertheless, the geographical contributions are much smaller than those found for mental health. The effects of being on a diet and moderate or intense exercise are similar to those found for mental health. They contribute positively to the concentration index. Likewise, those who have quit drinking for health reasons both report a lower EQOL-5D score and are concentrated among low incomes. The variation in risky working conditions explains 36.49% of the concentration index. As with mental health, those in risky environments tend to report a lower EQOL-5D score and are concentrated among low incomes. The variation in activity status accounts for 40.70% of the concentration index. Again, as it has been found for mental health, this is driven mainly by the relatively healthier and richer position of those who enjoy an indefinite contract (16%) or are self employed (8%) and the relatively less healthy and poorer position of the disabled (14.5%). The contribution the variation in the educational categories is 40.90% of the concentration index as the illiterates (16%) and individuals with basic reading and writing (32%) report lower EQOL-5D and are concentrated in low incomes.

5. Summary and conclusion

In this paper we have applied recently developed methodologies [20] to measure and explain the differences in the degree of income related inequality in mental health as measured by the GHQ instrument and general health as measured by the EQOL-5D instrument. We find that income is the main contributor to inequality, although the share of inequality in mental health that can be explained by income is much greater than the corresponding share of inequality in general health. We also find that the variation in demographic structure reduces income related inequality in mental health and in general health. The regional variations in both instruments for health are striking, with the Barcelona districts faring relatively bad with respect to the rest of geographical areas, Lleida being the health region where, all else held equal, the population reports the greatest level of health. A big share of inequality in the two health measures, but specially mental health, is due to the differences in both health and income of those who enjoy an indefinite contract. We also find that risky working conditions affect both health measures and are able to explain an important share of income-related health inequality. We also find that education contributes positively to income related inequality in the two health measures. In the case of mental health, however, the effects are not significant at conventional levels.

The consequences for policy prescriptions are limited in the sense that our estimates cannot be given an unambiguous causal interpretation. Are those who enjoy an indefinite contract healthier because they have job security or have they managed to sign an indefinite contract because they are relatively healthy? Obviously this is hard to ascertain with the data at hand. However, what the data can tell is that job insecurity acts as an indicator for relatively lower health. Moreover, this relationship is present after conditioning on a wide set of potentially confounding variables. It seems then that resources devoted to improve the health of those who do not enjoy job security could be justified not only on the "ability to benefit" principle but, should causality run from good health to job security, on the potential enhancement of job market opportunities too.

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Table 1. Health equations: OLS regression coeficients. Means of variables. Concentration indices of dependent and independent variables and health inequality contributions.

	GHQ				EuroQol-5D			
	Health equation	Mean of Variables	CI	Contribution to health inequality	Health equation	Mean of Variables	CI	Contribution to health inequality
Health index		26,3430	**0,0050**			0,8779	**0,0080**	
Explained health index				0,0030				0,0076
Log Income	0,51524*	11,7465	**0,0134**	**0,0031**	0,01298	11,7454	**0,0134**	0,0023
as %				102,50%				30,66%
F20-24	-0,15377	0,0563	**-0,2704**	0,0001	**-0,02663**	0,0563	**-0,2729**	**0,0005**
F25-29	0,04219	0,0535	-0,0334	0,0000	**-0,05183**	0,0540	-0,0351	0,0001
F30-34	-0,68639	0,0345	**0,2641**	**-0,0002**	**-0,06670**	0,0339	**0,2671**	**-0,0007**
F35-39	-0,78719*	0,0484	**0,2571**	**-0,0004**	**-0,08191**	0,0492	**0,2664**	**-0,0012**
F40-44	-0,48134	0,0481	**0,2145**	-0,0002	**-0,09142**	0,0485	**0,1975**	**-0,0010**
F45-49	-0,48762	0,0425	**0,3512**	**-0,0003**	**-0,11348**	0,0428	**0,3592**	**-0,0020**
F50-54	-0,81050*	0,0429	**0,2750**	**-0,0004**	**-0,12081**	0,0422	**0,2759**	**-0,0016**
F55-59	**-1,46709**	0,0369	**0,2048**	**-0,0004**	**-0,14951**	0,0374	**0,1832**	**-0,0012**
F60-64	-0,42727	0,0241	**0,1127**	0,0000	**-0,18742**	0,0241	**0,1054**	-0,0005
F65-69	0,19103	0,0307	0,0361	0,0000	**-0,16489**	0,0306	0,0337	-0,0002
F70-74	-0,51443	0,0254	-0,0570	0,0000	**-0,21489**	0,0248	-0,0601*	0,0004
F75-79	-0,60592	0,0159	**-0,1247**	0,0000	**-0,24105**	0,0158	**-0,1323**	0,0006
F80	0,09907	0,0127	**-0,2441**	0,0000	**-0,24307**	0,0125	**-0,2314**	0,0008
M16-19	0,54237	0,0396	**-0,2037**	-0,0002	0,00556	0,0392	**-0,1876**	0,0000
M20-24	0,72967*	0,0593	**-0,2247**	-0,0004	-0,00006	0,0587	**-0,2300**	0,0000
M25-29	0,36116	0,0535	-0,0411	0,0000	**-0,03185**	0,0528	-0,0437	0,0001
M30-34	-0,22752	0,0424	**0,1376**	-0,0001	**-0,03572**	0,0418	**0,1271**	**-0,0002**
M35-39	0,04668	0,0430	**0,0750**	0,0000	**-0,05173**	0,0425	**0,0832**	**-0,0002**
M40-44	0,31650	0,0400	**0,0667**	0,0000	**-0,04723**	0,0410	**0,0727**	-0,0002
M45-49	-0,26792	0,0378	**0,1362**	-0,0001	**-0,06556**	0,0392	**0,1320**	**-0,0004**
M50-54	-0,17807	0,0319	0,0555	0,0000	**-0,06677**	0,0322	0,0523	-0,0001
M55-59	0,07977	0,0339	-0,0476	0,0000	**-0,09017**	0,0337	-0,0360	0,0001

	GHQ				EuroQol-5D			
	Health equation	Mean of Variables	CI	Contribution to health inequality	Health equation	Mean of Variables	CI	Contribution to health inequality
M60-64	0,17627	0,0326	**-0,1592**	0,0000	**-0,07062**	0,0329	**-0,1674**	**0,0004**
M65-69	0,72095	0,0266	**-0,3336**	-0,0002	**-0,10131**	0,0262	**-0,3196**	**0,0010**
M70-74	0,63539	0,0238	**-0,3255**	-0,0002	**-0,04844**	0,0241	**-0,3131**	0,0004
M75-79	0,71058	0,0135	**-0,4078**	-0,0001	**-0,11500**	0,0136	**-0,4037**	**0,0007**
M80	-1,11920	0,0100	**-0,2448**	0,0001	**-0,17358**	0,0098	**-0,2351**	0,0005*
as %				-96,72%				-52,86%
Tarragona	**-2,31483**	0,0764	-0,0398	0,0003*	-0,01226	0,0748	-0,0364	0,0000
Tortosa	**-1,58392**	0,0247	**-0,1610**	**0,0002**	-0,02416	0,0239	**-0,1597**	**0,0001**
Girona	**-2,17904**	0,0815	-0,0346	0,0002	**-0,02973**	0,0848	-0,0398*	0,0002
Costa Ponent	**-3,24963**	0,1883	**-0,0568**	**0,0013**	**-0,04014**	0,1898	**-0,0602**	**0,0005**
Barcelonès nord i Maresme	**-3,45479**	0,1123	**-0,0648**	**0,0010**	**-0,03720**	0,1122	**-0,0649**	**0,0003**
Centre	**-3,35687**	0,2102	-0,0097	0,0003	**-0,05409**	0,2072	-0,0088	0,0002
Ciutat Vella	**-2,86594**	0,0155	0,0854	-0,0001	**-0,05969**	0,0149	0,0873	-0,0001
Eixample	**-2,58207**	0,0408	**0,3099**	**-0,0012**	**-0,03883**	0,0418	**0,3253**	**-0,0006**
Sants-Montjuic	**-3,76314**	0,0247	**0,1010**	**-0,0004**	**-0,04770**	0,0281	**0,1172**	**-0,0003**
Les Corts	-0,80084	0,0127	**0,4015**	**-0,0002**	**-0,07380**	0,0128	**0,3969**	**-0,0004**
Sarrià-Sant Gervasi	**-3,55433**	0,0219	**0,3454**	**-0,0010**	**-0,04776**	0,0214	**0,3547**	**-0,0004**
Gràcia	**-4,58418**	0,0186	**0,1241**	-0,0004*	**-0,03843**	0,0183	**0,1253**	-0,0002
Horta-Guinardó	**-4,74335**	0,0310	0,0640	-0,0004*	**-0,08423**	0,0304	0,0502	-0,0001
Nou Barris	**-3,11281**	0,0311	-0,0682*	0,0003*	**-0,03720**	0,0303	-0,0591	0,0001
Sant Andreu	**-2,47363**	0,0253	**0,1384**	**-0,0003**	0,00353	0,0239	**0,1385**	0,0000
Sant Martí	**-3,56905**	0,0357	0,0469	-0,0002	**-0,05082**	0,0361	0,0395	-0,0001
as %				-23,56%				-9,82%
Widowed	**-1,40757**	0,0363	-0,0239	0,0000	-0,02706*	0,0355	-0,0134	0,0000
Divorced / Separated	-0,59694*	0,0226	**0,1823**	-0,0001	-0,00013	0,0222	**0,1790**	0,0000
as %				-1,56%				0,19%
Diet	-0,23295	0,1480	-0,0121	0,0000	**-0,03520**	0,1485	-0,0199	0,0001

	GHQ				EuroQol-5D			
	Health equation	Mean of Variables	CI	Contribution to health inequality	Health equation	Mean of Variables	CI	Contribution to health inequality
as %				0,53%				1,56%
Standing most of the time	**0,38036**	0,1944	0,0084	0,0000	**0,02100**	0,1939	0,0078	0,0000
Walks frequently	**0,51738**	0,4234	0,0141	0,0001	**0,04422**	0,4239	0,0130	0,0003
Physical effort on daily activities	**1,06207**	0,1019	**-0,0640**	-0,0003*	**0,03642**	0,1008	**-0,0560**	-0,0002
as %				-4,08%				1,04%
Moderate or intense physical activity	**0,36851**	0,2738	**0,0567**	0,0002*	**0,01902**	0,2721	**0,0530**	**0,0003**
as %				7,24%				4,11%
Never smoked	0,20267	0,4891	0,0054	0,0000	0,00395	0,4875	0,0042	0,0000
Ex-smoker	**0,55985**	0,1784	0,0005	0,0000	0,01037	0,1817	-0,0022	0,0000
as %				0,74%				0,06%
Ceased drinking for health reasons	**-1,38263**	0,0175	**-0,2541**	**0,0002**	**-0,08897**	0,0178	**-0,2596**	**0,0005**
Nearly teetotal	**-0,33426**	0,4245	0,0038	0,0000	-0,00314	0,4276	0,0050	0,0000
Complete teetotal	-0,10037	0,2790	-0,0187	0,0000	0,00175	0,2771	-0,0220*	0,0000
as %				7,76%				5,89%
Risk	**-1,62226**	0,2570	**-0,0474**	**0,0008**	**-0,19887**	0,2577	**-0,0475**	**0,0028**
as %				25,01%				36,49%
Civil employee	0,18610	0,0261	**0,5112**	**0,0001**	0,01266	0,0258	**0,4879**	**0,0002**
Indefinite contract	**0,59025**	0,2935	**0,1528**	**0,0010**	**0,02294**	0,2933	**0,1597**	**0,0012**
Temporal contract < 6 months	0,56711*	0,0350	**-0,2438**	**-0,0002**	0,01518	0,0356	**-0,2647**	**-0,0002**
Temporal contract 6-11 months	**0,73755**	0,0343	**-0,2008**	**-0,0002**	0,01312	0,0339	**-0,1920**	-0,0001
Temporal contract 12-23 months	0,35742	0,0080	0,0169	0,0000	**0,03820**	0,0085	-0,0100	0,0000
Temporal contract > 2 years	1,05381	0,0034	-0,2635*	0,0000	0,01360	0,0035	-0,1937	0,0000
Temporal contract	-0,23120	0,0207	**-0,1441**	0,0000	0,01644	0,0201	**-0,1505**	**-0,0001**

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	GHQ				EuroQol-5D			
	Health equation	Mean of Variables	CI	Contribution to health inequality	Health equation	Mean of Variables	CI	Contribution to health inequality
without limit								
Worker from a temporary work company	**4,15159**	0,0013	-0,3833*	-0,0001*	**0,09104**	0,0014	**-0,3928**	-0,0001
Without a contract	-0,69803	0,0115	-0,0219	0,0000	-0,02074	0,0118	-0,0227	0,0000
Independent worker	0,39454	0,0848	**0,0958**	**0,0001**	**0,02667**	0,0851	**0,0928**	**0,0006**
Unemployed	-0,25455	0,0670	**-0,2344**	**0,0002**	-0,01057	0,0678	**-0,2345**	**-0,0002**
Disabled for work	**-2,71001**	0,0195	**-0,2943**	**0,0006**	**-0,22989**	0,0201	**-0,3112**	**0,0011**
as %				50,21%				40,70%
Extra time	-0,12139	0,6362	**-0,0501**	0,0001	-0,00555	0,6354	**-0,0517**	0,0002
as %				4,89%				2,73%
Irregular working day	**-0,59368**	0,0909	**0,1113**	**-0,0002**	-0,00891	0,0911	**0,1119**	**-0,0001**
as %				-7,60%				1,36%
Illiterate	-1,29080	0,0160	**-0,4599**	0,0004*	**-0,1418**	0,0159	**-0,4589**	**0,0012**
Basic Reading and writing	-0,23527	0,1157	**-0,2308**	0,0002	**-0,0788**	0,1162	**-0,2340**	**0,0024**
Primary school	-0,23758	0,2466	**-0,0477**	0,0001	**-0,0329**	0,2461	**-0,0474**	0,0004
Basic secondary school	0,15122	0,2032	**-0,0771**	-0,0001	**-0,0305**	0,2022	**-0,0725**	0,0005
Bachillerato	0,15651	0,1368	**0,1277**	0,0001	**-0,0312**	0,1363	**0,1231**	**-0,0006**
Basic vocational training	-0,03442	0,0756	-0,0167	0,0000	-0,0298*	0,0755	-0,0037	0,0000
Advanced vocational training	0,48827	0,0728	-0,0444*	-0,0001	-0,0218	0,0736	**-0,0484**	0,0001
3 years university degree	0,42077	0,0523	**0,2718**	0,0002	-0,0234	0,0527	**0,2714**	**-0,0004**
4/5 years university degree	0,2182906	0,0721	**0,4079**	0,0002*	-0,0173	0,0725	**0,4009**	**-0,0006**
as %				37,70%				40,90%
Adjusted R-squared	0,1139				0,28958			

Note: Values significantly different form zero: at P<0.05 in bold typeface; * at P<0.10