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Education as the (not so) great equalizer: new evidence based on a parental fixed effect analysis for Spain

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**Abstract**

We investigate whether coming from a higher socio-economic background is associated with greater labour market success, net of own achieved education. We replicate previous analyses on the direct effect of social origin, net of education, for Spain using a more recent and larger dataset that consists of the merged monthly barometer surveys by the *Centro de Investigaciones Sociológicas*. Compared to previous studies, we use a more refined classification for the respondent's education and perform a novel parental occupation fixed effect analysis that allow us to identify the specific parental occupations in which the strongest direct intergenerational transmission of socio-economic advantage occurs. We find that there is a substantial direct association between parental background and the respondent socio-economic status, income and household income, over and above the respondent's level of education. This result provides additional evidence that questions the idea that education is the great equalizer. We also show that the strongest intergenerational direct transmission of socio-economic advantages occurs for respondents whose parents either exert power and influence in large organisations or are liberal professionals in law or university professors. In the appendix we provide the Stata syntax for recoding the CNO11 Spanish classification of occupations into an index of socio-economic status (ISEI) and into the EGP and Oesch class schemes.

## 1. Introduction

In social stratification research, education is deemed to be the "great equaliser" if two individuals with the same educational level have equal chances of success in the labour market, regardless of their social origins. A number of studies for EU countries and the US have, however, questioned this view and shown that those who come from higher social background have an advantage in terms of socio-economic outcomes when compared to those with the same level of education but who come from a lower social background (Bernardi and Ballarino 2016; Bukodi and Goldthorpe 2012; Breen and Golthorpe 2001; Gugushvili *et al.* 2017; Torche 2011). Previous research for Spain have also documented a direct association between social origin and labour market outcomes persists, after controlling for achieved education (Carabaña, 1983; Rodríguez 1993; Echevarría 2009; Carabaña, 1999; Marqués Perales and Gil-Hernández 2015; Bernardi 2012).

In this article we make four contributions. First, we replicate previous analyses on the direct effect of social origin, net of education, for Spain using a more recent and larger dataset that consists of the merged monthly barometer surveys fielded since February 2013 by the *Centro de Investigaciones Sociológicas* (CIS). Second, when compared to previous studies for Spain and other countries, we use a more refined classification for the respondent's education. This is an important feature of our analysis that allows us to tackle a common critique formulated to previous studies in this stream of research, as we discussed more in details in the next section. Third, we take advantage of the large size of the CIS monthly merged barometer dataset and perform a parental occupation fixed-effect analysis. With this novel approach we are able to identify the parental occupations in which the strongest direct intergenerational transmission of socio-economic advantage occurs. Finally, we provide the Stata syntax for recoding the CNO11 Spanish classification of occupations into an index of socio-economic status (ISEI) and into the EGP and Oesch (2006) class schemes. While the latter is not a substantive contribution, we believe that, by sharing our codes, we can make a useful service to future social stratification studies.

**2. Education as the great equalizer: an analytical framework**

The basic framework in social mobility study to investigate the intergenerational reproduction of inequality is known as the OED triangle and is reproduced in Fig. 1. The vertex O represents social origin, E is the respondent's education and D is his/her social destination; O and D are typically measured in terms of social class, socio-economic status or income.

Figure 1. The OED triangle

**E**ducation



**O**rigin                    **D**estination
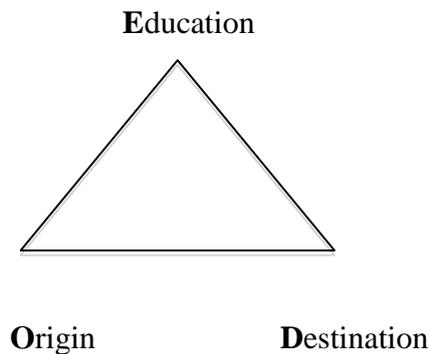
The idea that education functions as the great equalizer implies that the direct association between O and D goes to zero, once the educational level E is controlled for (Goldthorpe 1996; 2003). In other words, if education is the great equalizer subjects, who have achieved the same level of education, will have equal socio-economic outcomes, independently of their social origin. As it was mentioned in the introduction, a number of studies have questioned the idea that education functions as the great equalizer and have found a direct effect of social origin (DESO), after taking into account the achieved level of education. For instance, in a recent comparative study a substantial DESO was found in all the 14 countries object of investigation (Ballarino and Bernardi 2016).

Previous studies for Spain have also documented an intergenerational association in socio-economic status net of own education with unstandardised betas that vary between 0.14 and 0.25 (Carabaña, 1983; Rodríguez 1993; Echevarría 2009; Carabaña, 1999)[1]. In a more recent study based on a survey from 2006 (CIS 2634) the unstandardised beta for the net effect of parental ISEI on respondents' ISEI controlling for their education turns out to be 0.17, while a unit change in parental ISEI is associated with an increase of four euros in their monthly net income. Based on this estimate, a respondent whose father is a medical doctor (with parental

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[1] Recent studies have also documented a direct effect of social background on the likelihood of accessing the service class (Bernardi 2012; Marqués Perales and Gil-Hernández 2015), while other have documented an effect on overeducation (Barone and Ortiz 2011) and the risk of low salary (being a *mileurista*) (Martínez García 2013). Some studies, however, restricted to university graduates have not documented an effect of social background on income and chances of employment (Carabaña and de la Fuente 2015; Fachelli *et al.* 2014). Although we cannot discuss the details of these latter studies here, there are issues of sample selection and in the definition of the dependent variables that make their results not fully comparable with ours.

ISEI = 85) can expect on average to be employed in a job with a socio-economic status on average about 10 points higher than someone with the same educational level who comes from a blue collar background (with parental ISEI = 28) (Bernardi 2012) [2].

Two critical issues arise from these findings. The first one is methodological. The core idea to test the education as the great equalizer hypothesis is to compare subjects with the *same* level of education. If education is, however, not properly measured, the estimate of the DESO might be biased and most likely inflated. One might consider, for instance, a study that does not distinguish between short and long university degrees and just a uses a single category for university graduates. If subjects from the higher social background are more likely to achieve long university degree and if long university degrees are associated to more favourable socio-economic outcomes when compared to short degrees, then the DESO estimated in this study will also capture part of the unmeasured effect of the distinction between short and long degrees. In this example the DESO will be overestimated[3]. A precise measurement of the respondent's education is therefore an essential requirement to estimate the DESO.

The second issue refers to the mechanisms underlying the DESO. If one accepts that a DESO exists, the next question is how it comes about. As suggested in Ballarino and Bernardi (2016, 274) a first step to get closer to the mechanism producing the DESO is to investigate *where* the largest direct effect is observed. While previous studies have operationalized social origins in terms of aggregated social class or using some continuous measures of socio-economic status, the suggestion in Ballarino and Bernardi (*Ibidem*) is to scrutinize directly the specific occupations. By mapping for which parental occupations one observes the largest DESO, one can also get a first hint on the mechanisms underlying the direct transmission of privilege, on the top of achieved education.

In this study we, thus, address the two critical issues just discussed. When compared to previous research, we use a much more detailed educational classification and perform a parental occupations fixed-effect analysis. In the next section we explain more in details the logic of this approach, together with the data and variables that we have used.

## 3. The data, models and variables

In our analysis we merge 31 different rounds of the monthly CIS barometers, fielded between February 2013 (study number 2978) and November 2015 (study number 3118), when the

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[2] The estimates commented in the text are the results of $57 \times 0.17 = 9.7$ and $57 \times 4 = 216$. Note also that ten points in the ISEI scale make for a substantial difference, separating, for instance, a job as a middle ranked civil servant (ISEI = 59) from a manager in a big firm (ISEI = 69).

[3] A similar concern refers to horizontal differences within the same level of education, i.e. differences in the quality of schools and university. The observed origin and destination association might partly reflect the fact that upper class students attend the best upper secondary schools and universities. While this certainly an important issue in countries like US and UK with well identified elite high schools and universities, it seems less of a problem in countries like Spain with a relatively less horizontally stratified educational system, particularly at the University level, into elite and non-elite institutions.

present study started. Our merged data set amounts to a total of 76,747 respondents (slightly under 2,500 per round).

We use the detailed information on the respondents' occupation, employment status and educational level available to assign scores of socio-economic status, using the ISEI index, and a social classes, using the EGP class scheme, to respondents (Ganzeboom and Treiman 1996). ISEI is an index of socio-economic status associated with occupations that ranges from 16 (cleaners) to 90 (judges) (Ganzeboom and Treiman (1996). The EGP class scheme is based on a new-weberian definition of social classes (Goldthorpe 2000). In the case of respondents' parental occupations, since the information on self-employment status is missing, we are only able to construct the ISEI scores. In the appendix one can find the Stata syntax to recode the CNO11 codes into ISEI score and the EGP and Oesch class schemes.

Our empirical analysis consists of set of ordinary least square models. In the first set of models an indicator of the respondent's socio-economic position D is regressed on an indicator of the parental socio-economic position O, gender, age and an error term $\varepsilon$.

Formally:

    (1) $D = \alpha + \beta(O) + \gamma(\text{gender}) + \delta(\text{age}) + \varepsilon$

In the second set of models, we also control for the respondent's level of education. Formally:

    (1) $D = \alpha + \beta(O) + \gamma(\text{gender}) + \delta(\text{age}) + \lambda(\text{Education}) + \varepsilon$

If the education as the great equalizer hypothesis is true, the coefficient $\beta$ in model 2 should become equal to or approach 0.

For the dependent variable D, we consider the socio-economic status of the respondent, measured with the ISEI score, and, in different specifications, his/her personal and household income[4]. In the CIS monthly barometer surveys the information on net monthly personal income and net monthly household income is collected using a scale with 11 income intervals. We use the central value of each of the income intervals to define a continuous variable.

The key independent variable O is the parental ISEI defined with a dominance criterion, i.e. measured as the highest ISEI score of either of the two parents when the respondent was 16. In the parental occupation fixed-effect analysis we use the 3 digit CNO11 codes and directly include the 166 father occupations for which we have valid observations, as dummy variables in our models. Note that in order to undertake this "parental occupation fixed-effect" analysis, a large dataset with sufficient observations for each of the three digits CNO11 occupations is required. The merged data set from the CIS monthly barometers precisely fulfils these requirements.

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[4] In additional analyses not presented here, we also define D as dummy variable for access in the upper class (Class I and II) in the EGP class scheme.

As discussed above in order to properly test the idea that education is the great equalizer one needs to use a classification of the respondent's education, as precise as possible. If not, measurement error associated to education is likely to inflate the origin-destination association. For this reason, we use most the detailed classification available in the data set and consider 16 categories for the respondent's educational attainment. In Table 1 we report the distribution of education using this detailed classification. The 16-fold classification in Table 1 mainly captures vertical stratification in education. Among those with university education, it however enable to isolate those with a degree in engineering and architecture.

Table 1: Distribution of respondents by level of education

|  | Frequency | Percentage |
| --- | --- | --- |
| No formal schooling | 3,152 | 4.11 |
| Less than 5 years of schooling | 1,468 | 1.92 |
| Primary education | 13,978 | 18.24 |
| Vocational training first level | 323 | 0.42 |
| Secondary education | 18,947 | 24.72 |
| Vocational training middle level | 5,727 | 7.47 |
| Baccalaureate (school leaving qualification, Bachillerato) | 10,158 | 13.25 |
| Vocational training higher level | 7,490 | 9.77 |
| Technical architecture or engineering | 1,183 | 1.54 |
| University Short (Diplomatura) | 4,619 | 6.03 |
| University Long (Estudios de grado) | 560 | 0.73 |
| University Long (Estudios de licenciatura) | 6,753 | 8.81 |
| Architecture or engineering | 990 | 1.29 |
| Official master's degree | 766 | 1.00 |
| Doctor's degree | 435 | 0.57 |
| Private post-graduate degree | 101 | 0.13 |
| Total | 76,650 | 100.00 |

The sample is restricted to respondents aged 28 to 65 in line with previous studies on the same subject. When the dependent variable is personal income we further restricted the analyses to those who are employed or unemployed (but previously in employment) at the time of the survey. These different restrictions account for why our sample size ranges from 25,321 (for the analysis of personal income) to 45,116 cases (for the analysis of ISEI).

## 4. Results

With Model 1 in Table 2 we study the gross association between the respondent's ISEI and the ISEI of his/her parents controlling only for the respondent's age and gender. In Model 2 we add the respondent's level of education measured with 16 categories[5]. Comparing the effect size of parental ISEI in the two models we find that about two thirds of the gross association between respondent's and parental ISEI goes through respondent's educational attainment. Still, Model 2 provides evidence of a DESO that goes against the hypothesis that education function as the great equalizer.

The direct effect of parental ISEI estimated in Model 2 is 0.14 and is remarkably close to the estimate based on data collected by CIS in 2006 that was 0.17 (Bernardi 2012). The analysis in Bernardi (2012) is the most similar in terms of design and of the measurement of origin and destination. The only notable difference is that in the present study we use a much more detailed classification for educational levels (16 categories compared to six). Our new finding, then, shows that DESO is still observed even using a detailed classification that precisely capture the vertical differentiation of the Spanish educational system[6]. More substantively, based on the estimate in Table 2, a respondent whose father is a medical doctor (with parental ISEI = 88) can expect on average to be employed in a job with a socio-economic status that is on average about 10 points higher than someone with the same educational level but who comes from an unskilled blue collar background (with parental ISEI = 20)[7].

In Model 3 we analyse the direct effect of parental ISEI on the respondent's income (only for those employed or unemployed who have previously been employed). We find that one point variation in the parental ISEI is associated on average with an increase of 2.2 euros in the respondent's net monthly income (Model 3), net of own achieved education. This means that, with the same level of education, an increase of 60 points in parental ISEI (i.e comparing someone whose father is a medical doctor with someone whose father is an unskilled blue collar worker) corresponds to an average gain of 130 euros in monthly income.

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[5] The results for the 16 educational categories are reported in Appendix table 1.

[6] Bernardi (2012) also investigates whether the choice of different fields of study explains the observed DESO in Spain. The analysis based on CIS 2634 shows that the direct effect of social class of origin on access to the service class, income and ISEI is largely unmodified when one also controls for the field of study of those with tertiary education (*Ibidem*, Table 7). Triventi (2013) in a comparative analysis *only* among graduates finds that the fields study mediate a substantial part of the direct effect of parental education in Spain. Differences in the definition of the dependent variables and in the analytical sample hinder the possibility of a strict comparison of the results of the two studies.

[7] The estimates commented in the text are the results of $57 \times 0.17 = 9.7$ and $57 \times 4 = 216$. Note also that ten points in the ISEI scale make for a substantial difference, separating, for instance, a job as a middle ranked civil servant (ISEI = 59) from a manager in a big firm (ISEI = 69).

Table 2: OLS regression analyses of respondent's ISEI, personal and household income

| Variables | M1 Respondent ISEI | M2 Respondent ISEI | M3 Personal Income | M4 Household Income |
|---|---|---|---|---|
| Parental ISEI | 0.458*** | 0.138*** | 2.162*** | 4.986*** |
| | (0.005) | (0.004) | (0.254) | (0.317) |
| Female | 0.669*** | 0.040 | -361.187*** | -91.924*** |
| | (0.180) | (0.140) | (8.475) | (10.203) |
| Age | 0.001 | 0.185*** | 11.577*** | 6.213*** |
| | (0.009) | (0.007) | (0.468) | (0.524) |
| Control for respondent education (15 levels) | NO | YES | YES | YES |
| Observations | 45,177 | 45,116 | 25,321 | 28,767 |
| R-squared | 0.160 | 0.506 | 0.249 | 0.263 |

Standard errors in parentheses
*** $p<0.001$, ** $p<0.01$, * $p<0.05$;
For the full table with coefficients for respondent's education see appendix Table 4

In Model 4 we analyse the direct effect of social origin on the respondent's household income, also controlling for the respondent's civil status (not shown in the table). We find that a unit variation in parental ISEI is associated on average with an increase of 5.8 euros in household income. This corresponds to an increase of about 350 euros for a variation of 60 points in parental ISEI. Model 4 thus shows that direct intergenerational association is stronger in the case of household income than individual income. The same pattern is also reported for USA in Torche (2011). One possible explanation of this finding could be that the educational level and, thus, the income of the partner is associated with the respondent's social origins. In other words, those who come from a socio-economically advantaged family are more likely to form a union with a partner with high education and income.

Next, in Table 3, we investigate the extent to which the patterns identified above occur for specific parental occupations. We have performed a parental occupation fixed effect analysis and included the 166 parental occupations for which we have valid observations as dummy variables in our models, being the occupation with CNO-11 712 ("construction workers") the reference category. We report the effects only for the parental occupations that a) turn out to provide the largest direct (i.e. net of respondent's achieved education) advantage to their offspring both in ISEI and income and b) have more than 20 observations. The results for the complete list of occupations are available in Appendix 1 Table 2.

Table 3: Parental occupations that guarantees the strongest advantage in terms of ISEI and monthly income, net of own achieved education

| Parental Occupations * | ISEI | Income (euros) |
|---|---|---|
| Higher army officer (1) | 9.4 | 361 |
| Legislators and senior officers in the public administrations and in special interest organisations (112) | 9.6 | 424 |
| Directors and chief executives (112) | 7.6 | 392 |
| Directors in ICT services (132) | 9.1 | 310 |
| University professors (221) | 10.2 | 349 |
| Judges and lawyers (251) | 11.4 | 371 |
| Legal professionals-Notary  (259) | 9.4 | 297 |

Notes: * compared to construction workers; CNO11 codes among brackets
Estimates based on parental occupations fixed-effect analysis, controlling also for gender, age and education (see Appendix Table 1 for the results for the complete list of parental occupations)

The parental occupations (with CNO11 codes among brackets) for which the direct intergenerational association in ISEI and income is strongest are: higher army officers (1), legislators and senior officers in the public administration and in special interest organisations (111), directors and chief executives (112), directors in ICT services (132), university professors (221), judges and lawyers (251) other legal professionals-notary public (259). For instance, a respondent with a parent who was judge or (more likely) a lawyer, holds an occupation that is about 11 points higher ISEI and earns 370 euros more every month than an equally qualified subject whose parent was a construction worker.

The occupations listed in Table 3 can be further divided in two groups. The first group comprises occupations that imply considerable power and influence in large organisations such as parties, special interest organisations, public administration, large private firms and corporation. The second group consists of liberal professions (lawyers, judges and university professors) that are characterized by processes of social closure that limit access to them (Sørensen 1990).

Although the parental occupation fixed-effects analysis presented in Table 2 and in Appendix 1 Table 2 is still insufficient to identify the mechanisms underlying the direct intergenerational transmission of advantage, it allows us to map more precisely where the direct effect of social origin comes about[8]. It also provides indications of which parental

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[8] There are five possible mechanisms underlying the DESO: direct inheritance of the family business; social networks; cognitive and non-cognitive skills; career aspirations and favouritism.

occupations to look at for a more in-depth study of processes underlying direct intergenerational transmission of socio-economic inequality.

Organisational influence and social and cultural resources that facilitate access to liberal professions seem to be the key assets associated with the family of origin that guarantees the direct (i.e. over and above achieved education) intergenerational transmission of socio-economic advantage.


## 5. Conclusions

The raise in education is, without a doubt, one of the great success story of modern, industrialised states and Spain is no exception this respect (Martínez-García 2013; Marqués-Perales 2015). In gross terms, it has pulled millions out of poverty over the last century, it has empowered them as citizens (Campbell 2006) and it has been a major driver of gender equality (Goldin 2006; Garrido 1993). There is also evidence that educational expansion over the 20th century has brought out a reduction of inequality in educational attainment by social origins (Ballarino et al. 2009; Bernardi and Requena 2010; Bernardi and Ballarino 2014; Carabaña 2013; Fernández Mellizo-Soto and Martínez-García 2016). Still, educational achievement does not fully neutralize the influence of social background.

Our findings question the idea that once two individuals achieve the same level of education, they have the same chances of success in the labour market, independently of the socio-economic status of their family of origin. To the contrary we have shown their social origins still matter in shaping their labour market success. More precisely, in line with previous studies we have documented a substantial direct association between parental socio-economic status measured as ISEI and respondent ISEI, income and household income, over and above the respondent's level of education. Discussing the implications of this finding for policies designed to promote more intergenerational equality would require a prior discussion of different normative theories of justice and goes far beyond the aims of this article. Still, one can mention that if a DESO exists, equalizing education might not be enough to promote social mobility because the influence of social origin on respondent's destination in the socio-economic structure also follows other paths (Ballarino and Bernardi 2016).


We have also advanced previous studies by using a more precise classification for the respondent's education and performing a parental occupation fixed-effect analysis. Our results based on the more detailed classification of education with 16 categories confirms that DESO found in previous studies is not an artefact due to imprecise measurement of the respondent education. The findings of the parental occupation fixed-effects analysis indicate that the strongest intergenerational direct transmission of socio-economic advantages occurs for respondents whose parents either exert power and influence in large organisations or are liberal professionals in law or university professors. We have, thus, identified a cluster of parental occupations on which future research might focus in order to investigate the mechanisms underlying the observed direct intergenerational association of socio-economic advantage. Future research might also try explaining our finding that the DESO is larger for household than for personal income and explore the role played by assortative mating in the direct intergenerational transmission of socio-economic advantage. One could test if the

observed larger DESO in the case of household income is reduced by considering the partner's level of education.
Moreover, one could also investigate whether there are gender differences in the DESO and eventually for which outcomes (personal and household income, socio-economic status) are observed.

Finally, we hope that the codes to construct the ISEI and the EGP and Oesch class scheme based on the CNO11classifications of occupations that we make available with this article can become a useful tool for future studies on social stratification and mobility in Spain.

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Appendix: Additional tables

Appendix Table 1: OLS regression analyses of respondent ISEI, personal and household income

| Variables | M1 Respondent ISEI | M2 Respondent ISEI | M3 Personal Income | M4 Household Income |
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| Female | 0.669*** | 0.040 | -361.187*** | -91.924*** |
| | (0.180) | (0.140) | (8.475) | (10.203) |
| Age | 0.001 | 0.185*** | 11.577*** | 6.213*** |
| | (0.009) | (0.007) | (0.468) | (0.524) |
| Education (ref: no formal schooling) | | | | |
| Less than 5 years of schooling | | 0.659 | 2.729 | 88.851 |
| | | (1.024) | (77.590) | (71.815) |
| Primary education | | 3.077*** | 79.797 | 203.168*** |
| | | (0.670) | (54.093) | (46.875) |
| Vocational training first level | | 4.969*** | 234.615* | 302.232** |
| | | (1.321) | (95.973) | (105.119) |
| Secondary education | | 6.185*** | 264.033*** | 443.646*** |
| | | (0.657) | (52.752) | (45.805) |
| Vocational training middle level | | 11.329*** | 386.820*** | 653.459*** |
| | | (0.692) | (54.235) | (48.558) |
| Baccalaureate (school leaving qualification, Bachillerato) | | 16.061*** | 544.110*** | 851.709*** |
| | | (0.673) | (53.480) | (47.135) |
| Vocational training higher level | | 18.400*** | 581.135*** | 921.008*** |
| | | (0.679) | (53.630) | (47.559) |
| Technical architecture or engineering | | 38.579*** | 910.102*** | 1,367.644*** |
| | | (0.828) | (60.357) | (59.053) |
| University Short (Diplomatura) | | 35.789*** | 879.046*** | 1,343.979*** |
| | | (0.700) | (54.617) | (49.233) |
| University Long (Estudios de grado) | | 34.258*** | 764.345*** | 1,338.083*** |
| | | (1.273) | (79.815) | (92.134) |
| University Long (Estudios de licenciatura) | | 40.477*** | 1,023.609*** | 1,557.236*** |
| | | (0.687) | (53.941) | (48.165) |
| Architecture or engineering | | 45.307*** | 1,238.548*** | 1,831.092*** |
| | | (0.860) | (61.864) | (61.663) |
| Official master's degree | | 44.429*** | 1,146.874*** | 1,679.441*** |
| | | (0.923) | (63.646) | (65.204) |

| | | | |
|---|---|---|---|
| Doctor's degree | | 52.972*** | 1,627.318*** | 2,141.178*** |
| | | (1.041) | (69.476) | (73.123) |
| Private post-graduate degree | | 43.768*** | 1,165.042*** | 1,789.504*** |
| | | (1.798) | (100.058) | (119.726) |
| Constant | 24.045*** | 14.934*** | 342.242*** | 598.600*** |
| | (0.278) | (0.684) | (53.852) | (47.943) |
| | | | | |
| Observations | 45,177 | 45,116 | 25,321 | 28,767 |
| R-squared | 0.160 | 0.506 | 0.249 | 0.263 |

Standard errors in parentheses
*** $p<0.001$, ** $p<0.01$, * $p<0.05$, +
$p<0.10$

Appendix Table 2: Regression analysis of respondent ISEI and income by parental occupation (full list of parental occupations)

| | (1) | (2) |
|---|---|---|
| VARIABLES | M1 | M2 |
| | | |
| Female | 0.025 | -361.984*** |
| | (0.140) | (8.486) |
| Age | 0.185*** | 11.046*** |
| | (0.007) | (0.476) |
| Education (ref: no formal schooling) | | |
| Less than 5 years of schooling | 0.590 | -2.974 |
| | (1.022) | (77.554) |
| Primary education | 2.653*** | 54.645 |
| | (0.672) | (54.229) |
| Vocational training first level | 4.417*** | 190.409* |
| | (1.322) | (96.110) |
| Secondary education | 5.479*** | 229.307*** |
| | (0.662) | (53.027) |
| Vocational training middle level | 10.363*** | 342.379*** |
| | (0.699) | (54.655) |
| Baccalaureate (school leaving qualification, Bachillerato) | 14.977*** | 495.477*** |
| | (0.680) | (53.877) |
| Vocational training higher level | 17.374*** | 532.375*** |
| | (0.686) | (54.054) |
| Technical architecture or engineering | 37.616*** | 857.758*** |
| | (0.833) | (60.723) |
| University Short (Diplomatura) | 34.831*** | 828.250*** |
| | (0.706) | (55.004) |
| University Long (Estudios de grado) | 33.217*** | 706.934*** |
| | (1.276) | (80.101) |
| University Long (Estudios de licenciatura) | 39.447*** | 968.178*** |
| | (0.693) | (54.326) |
| Architecture or engineering | 44.471*** | 1,183.758*** |
| | (0.865) | (62.276) |
| Official master's degree | 43.437*** | 1,084.926*** |

|  | | |
|---|---|---|
|  | (0.928) | (64.018) |
| Doctor's degree | 52.061*** | 1,571.745*** |
|  | (1.044) | (69.785) |
| Private post-graduate degree | 42.528*** | 1,097.877*** |
|  | (1.800) | (100.376) |
| Parental CNO-11 (Ref. category 712)[9] | | |
| 1 | 9.441*** | 360.957*** |
|  | (1.627) | (90.629) |
| 2 | 3.209*** | 134.199** |
|  | (0.801) | (47.994) |
| 111 | 9.587** | 424.288* |
|  | (3.000) | (177.761) |
| 112 | 7.602*** | 392.167*** |
|  | (1.308) | (80.590) |
| 121 | 6.822*** | 135.216* |
|  | (0.984) | (56.954) |
| 122 | 9.793*** | 259.838 |
|  | (2.830) | (161.415) |
| 131 | 7.362*** | 128.758** |
|  | (0.865) | (49.960) |
| 132 | 9.108*** | 310.478*** |
|  | (1.227) | (71.128) |
| 141 | -1.099 | 13.951 |
|  | (2.999) | (171.707) |
| 142 | 5.707*** | 127.656 |
|  | (1.306) | (81.606) |
| 143 | 9.003*** | 292.998*** |
|  | (1.118) | (68.509) |
| 150 | 5.745*** | 162.788*** |
|  | (0.562) | (35.703) |
| 211 | 7.731*** | 153.869** |
|  | (0.806) | (49.550) |
| 212 | 4.502*** | 97.081+ |
|  | (0.928) | (54.404) |
| 213 | 5.706* | 263.371+ |
|  | (2.421) | (157.034) |
| 214 | 4.809* | 136.285 |
|  | (1.992) | (118.197) |
| 215 | 7.051** | -17.573 |
|  | (2.301) | (133.331) |
| 221 | 10.216*** | 349.360*** |
|  | (1.477) | (80.343) |
| 222 | 3.396 | -212.963 |
|  | (2.731) | (166.300) |
| 223 | 8.115*** | 171.181*** |

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[9] The correspondence between CNO-11 codes and occupational titles is available on: http://www.ine.es/jaxi/menu.do?type=pcaxis&path=/t40/cno11&file=inebase

|     |            |              |
| --- | ---------- | ------------ |
|     | (0.822)    | (47.330)     |
| 224 | 5.609***   | 149.820***   |
|     | (0.618)    | (35.668)     |
| 225 | 7.953      | 302.098      |
|     | (4.886)    | (250.809)    |
| 231 | 5.970      | 149.476      |
|     | (5.540)    | (296.704)    |
| 232 | 1.488      | -102.477     |
|     | (2.641)    | (145.326)    |
| 241 | 10.973***  | 135.658      |
|     | (1.836)    | (103.496)    |
| 242 | 12.031***  | 536.367**    |
|     | (3.287)    | (184.526)    |
| 243 | 5.209***   | 150.263**    |
|     | (0.812)    | (47.082)     |
| 244 | 10.820     | -406.008     |
|     | (7.326)    | (382.831)    |
| 245 | 5.248**    | 227.366*     |
|     | (1.784)    | (101.204)    |
| 246 | 6.391***   | 133.787      |
|     | (1.723)    | (106.014)    |
| 247 | 6.118      | -272.390     |
|     | (7.326)    | (468.687)    |
| 248 | 8.081***   | 150.878+     |
|     | (1.523)    | (90.613)     |
| 251 | 11.144***  | 371.426***   |
|     | (1.023)    | (65.525)     |
| 259 | 9.471***   | 296.533**    |
|     | (1.770)    | (98.962)     |
| 261 | 9.785***   | 128.318      |
|     | (1.769)    | (108.597)    |
| 262 | 6.998***   | 163.562*     |
|     | (1.248)    | (72.724)     |
| 263 | -3.430     | 80.275       |
|     | (10.355)   | (662.701)    |
| 264 | 3.679+     | 275.310*     |
|     | (1.922)    | (108.457)    |
| 265 | 5.688*     | 263.024      |
|     | (2.686)    | (166.405)    |
| 271 | 4.690      | -69.558      |
|     | (3.670)    | (191.907)    |
| 272 | 7.621*     | 407.097+     |
|     | (3.672)    | (221.456)    |
| 281 | 11.930***  | 109.814      |
|     | (2.131)    | (120.108)    |
| 282 | 12.553***  | 175.631      |
|     | (2.248)    | (118.167)    |
| 283 | -1.653     | -170.331     |
|     | (8.459)    | (382.942)    |

| | | |
|---|---|---|
| 291 | 1.918 | -384.622 |
| | (4.637) | (270.867) |
| 292 | 5.855* | 293.795* |
| | (2.275) | (119.973) |
| 293 | 2.681+ | -44.649 |
| | (1.537) | (84.678) |
| 311 | 7.818*** | 143.700 |
| | (1.646) | (91.385) |
| 312 | 7.825*** | 64.443 |
| | (1.742) | (109.866) |
| 313 | 1.066 | 148.912 |
| | (2.006) | (114.496) |
| 314 | 0.490 | 110.259 |
| | (2.600) | (177.667) |
| 315 | 4.954** | 53.869 |
| | (1.529) | (98.746) |
| 316 | 4.408* | 180.442 |
| | (2.173) | (118.016) |
| 320 | 3.401*** | 133.017*** |
| | (0.649) | (37.889) |
| 331 | 4.335+ | -38.281 |
| | (2.272) | (133.296) |
| 332 | 5.064 | 333.909 |
| | (4.234) | (221.312) |
| 333 | 0.617 | -1,052.501 |
| | (10.355) | (662.711) |
| 340 | 5.627*** | 213.907** |
| | (1.135) | (70.633) |
| 351 | 5.977*** | 39.695 |
| | (0.555) | (32.979) |
| 352 | 4.963*** | 19.671 |
| | (1.370) | (72.099) |
| 353 | 5.389*** | -8.531 |
| | (1.232) | (81.621) |
| 361 | 5.700*** | 139.967*** |
| | (0.455) | (26.590) |
| 362 | 5.906*** | 103.191 |
| | (1.088) | (82.292) |
| 363 | 6.971 | 552.650 |
| | (6.554) | (382.953) |
| 371 | 12.535* | 189.533 |
| | (4.887) | (331.654) |
| 372 | 1.165 | 225.487 |
| | (2.731) | (156.842) |
| 373 | 6.340*** | 181.795* |
| | (1.469) | (82.175) |
| 382 | 3.353 | 168.190 |
| | (2.274) | (133.413) |

| | | |
|---|---|---|
| 383 | 8.307*** | 61.646 |
| | (1.731) | (93.017) |
| 411 | 6.323*** | 279.589*** |
| | (0.717) | (42.585) |
| 412 | 3.610** | 115.157+ |
| | (1.100) | (63.664) |
| 421 | -2.090 | 380.695 |
| | (14.643) | (468.663) |
| 422 | 1.479 | 95.063 |
| | (1.223) | (70.552) |
| 430 | 0.704 | 186.517* |
| | (1.484) | (86.726) |
| 441 | 4.805 | 295.511 |
| | (3.131) | (221.245) |
| 442 | 2.030 | 254.942* |
| | (1.697) | (102.066) |
| 443 | 0.900 | -577.333 |
| | (14.644) | (662.719) |
| 444 | 0.955 | -144.795* |
| | (1.330) | (72.000) |
| 450 | 4.069 | 464.568 |
| | (6.551) | (382.788) |
| 500 | 4.921*** | 186.423*** |
| | (0.646) | (38.574) |
| 511 | 0.104 | 114.203* |
| | (0.851) | (47.753) |
| 512 | 0.638 | 8.063 |
| | (0.664) | (38.028) |
| 521 | 1.393 | 134.114 |
| | (1.743) | (107.068) |
| 522 | 2.591*** | 107.133** |
| | (0.568) | (33.301) |
| 530 | 2.545*** | 84.130** |
| | (0.445) | (27.166) |
| 541 | -0.050 | -54.074 |
| | (0.918) | (54.819) |
| 542 | 25.251** | -561.608 |
| | (8.456) | (468.874) |
| 543 | 2.347 | -6.714 |
| | (1.696) | (103.162) |
| 549 | -1.312 | 397.026 |
| | (6.551) | (382.744) |
| 550 | 4.814* | -28.934 |
| | (2.044) | (121.775) |
| 561 | 1.240 | 153.291+ |
| | (1.562) | (83.385) |
| 562 | 3.691* | 104.607 |
| | (1.449) | (85.296) |
| 571 | -0.610 | -109.455 |

|      |           |           |
| ---- | --------- | --------- |
|      | (2.299)   | (141.948) |
| 572  | -6.898    | 53.533    |
|      | (4.422)   | (210.024) |
| 581  | 3.164***  | 39.347    |
|      | (0.940)   | (54.422)  |
| 582  | 4.981+    | -141.372  |
|      | (2.684)   | (148.804) |
| 583  | 3.275***  | 62.960    |
|      | (0.810)   | (48.571)  |
| 584  | 4.522     | 180.921   |
|      | (3.788)   | (234.622) |
| 589  | 4.189*    | 121.905   |
|      | (2.025)   | (111.279) |
| 591  | 3.057***  | 132.657*  |
|      | (0.912)   | (57.371)  |
| 592  | 3.092***  | 11.219    |
|      | (0.780)   | (46.577)  |
| 593  | -0.464    | 25.900    |
|      | (2.245)   | (130.710) |
| 594  | 1.121     | 23.742    |
|      | (0.810)   | (48.939)  |
| 599  | -1.202    | 60.863    |
|      | (1.804)   | (114.513) |
| 611  | -0.838**  | 67.781*** |
|      | (0.310)   | (19.156)  |
| 612  | -1.154    | 75.248    |
|      | (1.202)   | (67.343)  |
| 620  | -1.817**  | 89.878*   |
|      | (0.591)   | (37.160)  |
| 630  | -3.489**  | 97.236    |
|      | (1.195)   | (78.791)  |
| 641  | -2.707    | -58.732   |
|      | (1.970)   | (130.689) |
| 642  | -1.288+   | 51.777    |
|      | (0.750)   | (46.837)  |
| 711  | 1.313     | -11.951   |
|      | (0.908)   | (51.792)  |
| 713  | 0.213     | 1.331     |
|      | (1.718)   | (101.965) |
| 719  | 1.138     | 66.593    |
|      | (1.017)   | (58.288)  |
| 721  | 0.808     | -14.620   |
|      | (1.505)   | (84.596)  |
| 722  | 3.157***  | 15.089    |
|      | (0.897)   | (51.828)  |
| 723  | 1.567*    | 39.112    |
|      | (0.734)   | (43.030)  |
| 724  | 0.682     | 145.514+  |

|      |            |             |
|------|------------|-------------|
|      | (1.653)    | (88.072)    |
| 725  | 5.637*     | 108.633     |
|      | (2.640)    | (184.262)   |
| 729  | -1.192     | 135.283     |
|      | (1.904)    | (111.256)   |
| 731  | 0.926      | 103.610*    |
|      | (0.700)    | (41.555)    |
| 732  | 2.693***   | 83.949+     |
|      | (0.779)    | (47.063)    |
| 740  | 3.142***   | 111.248***  |
|      | (0.501)    | (29.473)    |
| 751  | 3.122***   | 108.061**   |
|      | (0.647)    | (36.908)    |
| 752  | 4.505*     | 459.318***  |
|      | (2.246)    | (133.263)   |
| 753  | 1.935      | 68.011      |
|      | (1.332)    | (81.597)    |
| 761  | 3.446**    | 125.969+    |
|      | (1.138)    | (66.732)    |
| 762  | 1.829+     | 30.845      |
|      | (1.024)    | (63.629)    |
| 770  | 0.104      | 84.186+     |
|      | (0.745)    | (44.517)    |
| 781  | -6.000     | 203.797     |
|      | (6.552)    | (468.692)   |
| 782  | 1.340*     | 54.872      |
|      | (0.569)    | (33.935)    |
| 783  | 1.655*     | -0.415      |
|      | (0.791)    | (47.987)    |
| 789  | 4.838      | 576.974*    |
|      | (4.233)    | (270.808)   |
| 811  | -0.135     | 40.053      |
|      | (0.599)    | (40.732)    |
| 812  | 0.923+     | 170.683***  |
|      | (0.515)    | (31.671)    |
| 813  | 0.862      | 104.014     |
|      | (1.147)    | (73.209)    |
| 814  | -0.646     | 87.678+     |
|      | (0.814)    | (50.783)    |
| 815  | 1.449*     | 72.752+     |
|      | (0.666)    | (41.876)    |
| 816  | -1.010     | 78.218+     |
|      | (0.696)    | (43.632)    |
| 817  | 1.979      | 518.246     |
|      | (5.182)    | (331.570)   |
| 819  | -0.215     | -4.176      |
|      | (0.921)    | (55.493)    |
| 820  | 1.287+     | 110.585*    |
|      | (0.782)    | (45.870)    |

| | | |
|---|---|---|
| 831 | 2.641** | 162.875** |
| | (0.895) | (59.676) |
| 832 | -0.834 | 6.489 |
| | (2.220) | (123.819) |
| 833 | 1.059 | 8.874 |
| | (1.016) | (61.571) |
| 834 | 0.568 | 48.903 |
| | (1.330) | (86.634) |
| 841 | 1.812** | 89.116** |
| | (0.581) | (33.044) |
| 842 | 1.596+ | 60.409 |
| | (0.904) | (54.510) |
| 843 | 2.173*** | 92.920*** |
| | (0.458) | (27.078) |
| 910 | 0.284 | -93.035 |
| | (2.683) | (145.260) |
| 921 | -0.971 | -2.595 |
| | (1.346) | (78.242) |
| 922 | 1.764 | -106.338 |
| | (5.539) | (331.605) |
| 931 | 0.701 | 39.142 |
| | (5.538) | (296.573) |
| 932 | -1.068 | -107.169 |
| | (4.635) | (270.775) |
| 942 | -9.083 | -113.793 |
| | (6.552) | (382.714) |
| 943 | 2.184+ | 60.704 |
| | (1.277) | (79.858) |
| 944 | -0.469 | -63.865 |
| | (1.273) | (71.198) |
| 949 | 3.386 | -114.197 |
| | (3.920) | (234.633) |
| 951 | -3.849*** | -91.746** |
| | (0.515) | (30.843) |
| 952 | -3.612 | 293.304 |
| | (5.981) | (468.656) |
| 953 | -11.731 | 467.427 |
| | (14.643) | (662.696) |
| 954 | 1.608 | 185.535 |
| | (5.182) | (234.703) |
| 960 | -1.316* | -13.949 |
| | (0.663) | (41.231) |
| 970 | 0.169 | 109.147** |
| | (0.609) | (37.677) |
| 981 | 0.773 | 92.288+ |
| | (0.907) | (53.545) |
| 982 | -2.579 | -279.866 |
| | (5.981) | (296.582) |

| | | |
|---|---|---|
| Constant | 18.412*** | 384.323*** |
| | (0.713) | (55.116) |
| | | |
| Observations | 45,116 | 25,321 |
| R-squared | 0.511 | 0.257 |

Estimates based on parental occupations fixed-effect analysis
Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

## Appendix 2: Coding of ISEI, EGP and Oesch class schemes

In order to code CNO11 into ISEI and Oesch class scheme, we first mapped the CNO11 codes into the ISCO-08 codes, and then assigned the Oesch codes to ISCO-08 (Oesch 2006) and the ISEI scores to ISCO-08 codes based on the Ganzeboom and Treiman (1996) classification. To construct the EGP class scheme we rely on the equivalence between CNO11 and EGP elaborated by Martínez Pastor[10]. Because there are a number of occasions in which there is a one-to-many match between CNO11 and ISCO-08, where also different ISEI scores or Oesch classes correspond to each of the ISCO-08 codes, we had to make a decision and to rely on additional information (like educational attainment or sector of employment) to divide these CNO11 groups and assign different ISEI scores. Where these decisions had to be made this is made explicit in the syntax below.

### Respondent's ISEI

* Note that before recoding CNO11 codes into ISEI, Oesch or EGP missing cases of the respondent's occupation variable need to be appropriately assigned.

Also note that there are some dissimilarities in the syntax of respondent's ISEI and parental ISEI because information on level of education is missing for parents. For respondents we use educational information to assign CNO11 occupations to different ISEI scores where there was no perfect match between ISCO-08 and CNO11. This, however, cannot be done with parental occupations.

```
gen isei= cno11
recode isei (001=60.92) if estudios==6
recode isei (001=51.63) if estudios!=6
/* Educational attainment was used to separate Armed forces officers from Armed forces sub-officers, those with university education are assigned as officers, the remaining as sub-officers*/
recode isei (002=29.18)
recode isei (111=74.50)
recode isei (112=70.34)
recode isei (121=72.24)
recode isei (122=73.71)
recode isei (131=49.48) if inlist(cnae09, 1, 2, 3)
recode isei (131=61.57)
```

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[10] This equivalence is based, firstly, on the correspondence between EGP and the previous version of the occupational coding, CNO-94. EGP class codes were then assigned based on the correspondence between CNO-94 and CNO-11.

/* Sector of economic activity was used to separate Production managers in agriculture, forestry and fisheries (those with sector activity codes 1 to 3, which correspond to agriculture, forestry and fishing) from Manufacturing, mining, construction and distribution managers (the remaining) */
recode isei (132=78.86) if inlist(cnae09, 60, 61, 62, 63)recode isei (132=65.01)
/* Sector of economic activity was used to separate Information and communications technology service managers (those with sector activity codes 60 to 63) from Professional services managers (the remaining) */
recode isei (141=43.85)
recode isei (142=43.85)
recode isei (143=51.56)
recode isei (150=51.01)
recode isei (211=88.70)
recode isei (212=68.70)
recode isei (213=84.14)
recode isei (214=75.43)
recode isei (215=75.43)
/* Psychologists (ISCO-08  2634) are coded together with Other health professionals under CNO11. Since we cannot separate them by other variables in the survey Psychologists are then included in this group (ISCO-08 226) although they correspond to ISCO-08 263, and should be assigned a different ISEI score.  */
recode isei (221=85.41)
recode isei (222=72.30)
recode isei (223=82.41)
recode isei (224=71.45)
recode isei (225=71.45)
recode isei (231=68.88)
recode isei (232=68.88)
recode isei (241=84.16)
/* Mathematicians, actuaries and statisticians (ISCO-08 212) are coded together with Physical and earth science professionals (ISCO-08 211) in CNO11. Since we cannot separate them by other variables in the survey Mathematicians, actuaries and statisticians are included in the latter group (211) and assigned corresponding ISEI scores. */
recode isei (242=80.46)
recode isei (243=79.05)
recode isei (244=80.75)
recode isei (245=79.74)
recode isei (246=79.05)
recode isei (247=80.75)
recode isei (248=79.74)
recode isei (251=85.13)
recode isei (259=85.13)
recode isei (261=75.50)
recode isei (262=70.09)
recode isei (263=70.09)
recode isei (264=73.91)
recode isei (265=73.91)
recode isei (271=74.66)

recode isei (272=75.13)
recode isei (281=77.24)
recode isei (282=77.24)
recode isei (283=77.24)
recode isei (291=71.55)
recode isei (292=72.83)
recode isei (293=63.31)
recode isei (293=63.31)
recode isei (311=53.60)
recode isei (312=53.60)
recode isei (313=33.66)
recode isei (314=54.86)
recode isei (315=63.29)
recode isei (316=53.60)
recode isei (316=53.60)
recode isei (320=38.18)
recode isei (331=54.92)
recode isei (332=24.79) if inlist(cnae09, 1, 2, 3)recode isei (332=53.15)
/* Sector of economic activity was used to separate Veterinary technicians and assistants (those with sector activity codes 1 to 3) from Other health associate professionals (the remaining) */
recode isei (333=51.57)
/* Traditional and complementary medicine professionals (ISCO-08 223) and Traditional and complementary medicine associate professionals (ISCO-08 323) which are coded together in CNO11 (333), all CNO11 333 are assigned ISCO-08 code 323 (and corresponding ISEI score).*/
recode isei (340=57.13)
recode isei (351=57.97)
recode isei (352=57.97)
recode isei (353=56.64)
recode isei (361=57.99)
recode isei (362=61.60)
recode isei (363=61.60)
recode isei (371=54.35)
recode isei (372=50.90)
recode isei (373=50.15)
recode isei (381=62.45)
recode isei (382=62.45)
recode isei (383=56.50)
recode isei (411=50.57)
recode isei (412=36.10)
recode isei (421=42.30)
recode isei (422=42.30)
recode isei (430=43.33)
/* General office clerks (ISCO-08 411), Secretaries (general) (ISCO-08 412), Keyboard operators (ISCO-08 413), and Other clerical support workers (ISCO-08 441) are coded together in CNO11 (430), all occupations are coded as General office clerks (411) and assigned corresponding ISEI codes.*/
recode isei (441=39.02)

recode isei (442=39.02)
recode isei (443=39.02)
recode isei (444=43.06)
recode isei (450=39.02)
recode isei (500=43.85)
/* ISCO-08 500 identifies Cooks and bartenders that own their business, this corresponds to several ISCO codes assigned depending on the specific task performed (e.g. cook, bartender at the bar), since they own their own business we assign these occupations ISCO-08 141 which corresponds to Hotel and restaurant managers. */
recode isei (511=24.53)
recode isei (512=25.04)
/* CNO11 512 (salaried waiters) mixes different occupations coded separately in ISCO-08: Waiters and bartenders (ISCO-08 513), Street and market salespersons (ISCO-08 521) and Other sales workers (ISCO-08 524). All CNO11 512 are coded as ISCO-08 513 and assigned corresponding ISEI scores. */
recode isei (521=29.47)
recode isei (522=29.47)
recode isei (530=29.47)
recode isei (541=26.64)
recode isei (542=39.04)
recode isei (543=39.04)
recode isei (549=39.04)
recode isei (550=30.90)
recode isei (561=26.64)
recode isei (562=54.92) if estudios==6
recode isei (562=53.15) if estudios==5
recode isei (562=26.64)
/* Level of educational attainment was used to separate Medical and pharmaceutical technicians (ISCO-08 321) (those with a university degree), Other health associate professionals (vocational training) (ISCO-08 325) and Personal care workers in health services (lower levels of education, the remaining) (ISCO-08 532) */
recode isei (571=26.64)
recode isei (572=24.98)
recode isei (581=31.08)
recode isei (582=45.46)
recode isei (583=25.46)
recode isei (584=25.46)
recode isei (589=30.59)
recode isei (591=36.86)
/* CNO11 591 corresponds to Protective services workers (ISCO-08 541) and Regulatory government associate professionals (ISCO-08 335), we assign all ISCO-08 541 and corresponding ISEI scores.*/
recode isei (592=36.86)
/* CNO11 592 corresponds to Protective services workers (ISCO-08 541) and Regulatory government associate professionals (ISCO-08 335), we assign all ISCO-08 541 and corresponding ISEI scores.*/
recode isei (593=36.86)
recode isei (593=36.86)

recode isei (594=36.86)
recode isei (599=36.86)
recode isei (611=16.34)
recode isei (612=16.34)
recode isei (620=22.21)
recode isei (630=17.79)
recode isei (641=17.79)
recode isei (642=16.33)
recode isei (643=16.33)
recode isei (711=25.94)
recode isei (712=25.94)
recode isei (713=25.94)
recode isei (719=25.94)
recode isei (721=25.26)
recode isei (722=25.26)
recode isei (723=23.63)
recode isei (724=25.26)
recode isei (725=25.26)
recode isei (729=25.26)
recode isei (731=27.61)
recode isei (732=29.84)
recode isei (740=31.15)
recode isei (751=36.97)
recode isei (752=36.97)
recode isei (753=41.68)
recode isei (761=30.35)
recode isei (762=31.50)
recode isei (770=23.46)
recode isei (781=23.65)
recode isei (782=23.65)
recode isei (783=22.03)
recode isei (789=43.19)
recode isei (811=31.44)
recode isei (812=25.91)
recode isei (813=29.30)
recode isei (814=25.49)
/* CNO11 814 codes together Rubber, plastic and paper products machine operators (ISCO-08 814) and Pulp and papermaking (ISCO-08 817), we code them as ISCO-08 814 and assign corresponding ISEI scores. */
recode isei (815=16.80)
recode isei (816=18.13)
recode isei (817=16.80)
recode isei (819=24.15)
recode isei (820=24.93)
recode isei (831=38.80)
recode isei (832=21.08)
recode isei (833=21.08)
recode isei (834=37.92)
recode isei (841=30.11)

recode isei (842=25.71)
recode isei (843=25.71)
recode isei (844=30.11)
recode isei (910=14.64)
recode isei (921=14.64)
recode isei (922=14.57)
recode isei (931=16.50)
recode isei (932=16.50)
recode isei (941=25.20)
recode isei (942=13.72)
recode isei (943=27.91)
recode isei (944=14.39)
recode isei (949=27.91)
recode isei (951=11.74)
recode isei (952=11.74)
recode isei (953=11.74)
recode isei (954=11.74)
recode isei (960=16.39)
recode isei (970=17.55)
recode isei (981=19.66)
recode isei (981=19.66)
recode isei (982=19.66)


**Father's ISEI**

Note: the same code applies for mother's ISEI

recode cno11_padre (153 662=.)
/*Note: These codes do not exist as CNO-11 (possible coding mistake) */

gen isei_padre= cno11_padre
recode isei_padre (001=51.63)
/* Because information on parental level of education is lacking all CNO11 001 are treated as Armed forces sub-officers*/
recode isei_padre (002=29.18)
recode isei_padre (111=74.50)
recode isei_padre (112=70.34)
recode isei_padre (121=72.24)
recode isei_padre (122=73.71)
recode isei_padre (131=49.48) if inlist(cnae09_padre, 1, 2, 3)
recode isei_padre (131=61.57)
/* Sector of economic activity was used to separate Production managers in agriculture, forestry and fisheries (those with sector activity codes 1 to 3, which correspond to agriculture, forestry and fishing) from Manufacturing, mining, construction and distribution managers (the remaining) */
recode isei_padre (132=78.86) if inlist(cnae09_padre, 60, 61, 62, 63)
recode isei_padre (132=65.01)

/* Sector of economic activity was used to separate Information and communications technology service managers (those with sector activity codes 60 to 63) from Professional services managers (the remaining) */
recode isei_padre (141=43.85)
recode isei_padre (142=43.85)
recode isei_padre (143=51.56)
recode isei_padre (150=51.01)
recode isei_padre (211=88.70)
recode isei_padre (212=68.70)
recode isei_padre (213=84.14)
recode isei_padre (214=75.43)
recode isei_padre (215=75.43)
/* Psychologists (ISCO-08  2634) are coded together with Other health professionals under CNO11. Since we cannot separate them by other variables in the survey Psychologists are then included in this group (ISCO-08 226) although they correspond to ISCO-08 263, and should be assigned a different ISEI score.  */
recode isei_padre (221=85.41)
recode isei_padre (222=72.30)
recode isei_padre (223=82.41)
recode isei_padre (224=71.45)
recode isei_padre (225=71.45)
recode isei_padre (231=68.88)
recode isei_padre (232=68.88)
recode isei_padre (241=84.16)
/* Mathematicians, actuaries and statisticians (ISCO-08 212) are coded together with Physical and earth science professionals (ISCO-08 211) in CNO11. Since we cannot separate them by other variables in the survey Mathematicians, actuaries and statisticians are included in the latter group (211) and assigned corresponding ISEI scores. */
recode isei_padre (242=80.46)
recode isei_padre (243=79.05)
recode isei_padre (244=80.75)
recode isei_padre (245=79.74)
recode isei_padre (246=79.05)
recode isei_padre (247=80.75)
recode isei_padre (248=79.74)
recode isei_padre (251=85.13)
recode isei_padre (259=85.13)
recode isei_padre (261=75.50)
recode isei_padre (262=70.09)
recode isei_padre (263=70.09)
recode isei_padre (264=73.91)
recode isei_padre (265=73.91)
recode isei_padre (271=74.66)
recode isei_padre (272=75.13)
recode isei_padre (281=77.24)
recode isei_padre (282=77.24)
recode isei_padre (283=77.24)
recode isei_padre (291=71.55)
recode isei_padre (292=72.83)

recode isei_padre (293=63.31)
recode isei_padre (293=63.31)
recode isei_padre (311=53.60)
recode isei_padre (312=53.60)
recode isei_padre (313=33.66)
recode isei_padre (314=54.86)
recode isei_padre (315=63.29)
recode isei_padre (316=53.60)
recode isei_padre (316=53.60)
recode isei_padre (320=38.18)
recode isei_padre (331=54.92)
recode isei_padre (332=24.79) if inlist(cnae09_padre, 1, 2, 3)
recode isei_padre (332=53.15)
/* Sector of economic activity was used to separate Veterinary technicians and assistants (those with sector activity codes 1 to 3) from Other health associate professionals (the remaining) */
recode isei_padre (333=51.57)
/* Traditional and complementary medicine professionals (ISCO-08 223) and Traditional and complementary medicine associate professionals (ISCO-08 323) which are coded together in CNO11 (333), all CNO11 333 are assigned ISCO-08 code 323 (and corresponding ISEI score).*/
recode isei_padre (340=57.13)
recode isei_padre (351=57.97)
recode isei_padre (352=57.97)
recode isei_padre (353=56.64)
recode isei_padre (361=57.99)
recode isei_padre (362=61.60)
recode isei_padre (363=61.60)
recode isei_padre (371=54.35)
recode isei_padre (372=50.90)
recode isei_padre (373=50.15)
recode isei_padre (381=62.45)
recode isei_padre (382=62.45)
recode isei_padre (383=56.50)
recode isei_padre (411=50.57)
recode isei_padre (412=36.10)
recode isei_padre (421=42.30)
recode isei_padre (422=42.30)
recode isei_padre (430=43.33)
/* General office clerks (ISCO-08 411), Secretaries (general) (ISCO-08 412), Keyboard operators (ISCO-08 413), and Other clerical support workers (ISCO-08 441) are coded together in CNO11 (430), all occupations are coded as General office clerks (411) and assigned corresponding ISEI codes.*/
recode isei_padre (441=39.02)
recode isei_padre (442=39.02)
recode isei_padre (443=39.02)
recode isei_padre (444=43.06)
recode isei_padre (450=39.02)

recode isei_padre (500=43.85)
/* ISCO-08 500 identifies Cooks and bartenders that own their business, this corresponds to several ISCO codes assigned depending on the specific task performed (e.g. cook, bartender at the bar), since they own their own business we assign these occupations ISCO-08 141 which corresponds to Hotel and restaurant managers. */
recode isei_padre (511=24.53)
recode isei_padre (512=25.04)
/* CNO11 512 (salaried waiters) mixes different occupations coded separately in ISCO-08: Waiters and bartenders (ISCO-08 513), Street and market salespersons (ISCO-08 521) and Other sales workers (ISCO-08 524). All CNO11 512 are coded as ISCO-08 513 and assigned corresponding ISEI scores. */
recode isei_padre (521=29.47)
recode isei_padre (522=29.47)
recode isei_padre (530=29.47)
recode isei_padre (541=26.64)
recode isei_padre (542=39.04)
recode isei_padre (543=39.04)
recode isei_padre (549=39.04)
recode isei_padre (550=30.90)
recode isei_padre (561=26.64)
recode isei_padre (562=26.64)
/* Because information on parental level of educational attainment is lacking we cannot separate between Medical and pharmaceutical technicians (ISCO-08 321), Other health associate professionals (ISCO-08 325) and Personal care workers in health services (ISCO-08 532). All CNO11 562 are treated as Personal care workers in health services and assigned corresponding ISEI scores. */
recode isei_padre (571=26.64)
recode isei_padre (572=24.98)
recode isei_padre (581=31.08)
recode isei_padre (582=45.46)
recode isei_padre (583=25.46)
recode isei_padre (584=25.46)
recode isei_padre (589=30.59)
recode isei_padre (591=36.86)
/* CNO11 591 corresponds to Protective services workers (ISCO-08 541) and Regulatory government associate professionals (ISCO-08 335), we assign all ISCO-08 541 and corresponding ISEI scores.*/
recode isei_padre (592=36.86)
/* CNO11 592 corresponds to Protective services workers (ISCO-08 541) and Regulatory government associate professionals (ISCO-08 335), we assign all ISCO-08 541 and corresponding ISEI scores.*/
recode isei_padre (593=36.86)
recode isei_padre (593=36.86)
recode isei_padre (594=36.86)
recode isei_padre (599=36.86)
recode isei_padre (611=16.34)
recode isei_padre (612=16.34)
recode isei_padre (620=22.21)
recode isei_padre (630=17.79)

recode isei_padre (641=17.79)
recode isei_padre (642=16.33)
recode isei_padre (643=16.33)
recode isei_padre (711=25.94)
recode isei_padre (712=25.94)
recode isei_padre (713=25.94)
recode isei_padre (719=25.94)
recode isei_padre (721=25.26)
recode isei_padre (722=25.26)
recode isei_padre (723=23.63)
recode isei_padre (724=25.26)
recode isei_padre (725=25.26)
recode isei_padre (729=25.26)
recode isei_padre (731=27.61)
recode isei_padre (732=29.84)
recode isei_padre (740=31.15)
recode isei_padre (751=36.97)
recode isei_padre (752=36.97)
recode isei_padre (753=41.68)
recode isei_padre (761=30.35)
recode isei_padre (762=31.50)
recode isei_padre (770=23.46)
recode isei_padre (781=23.65)
recode isei_padre (782=23.65)
recode isei_padre (783=22.03)
recode isei_padre (789=43.19)
recode isei_padre (811=31.44)
recode isei_padre (812=25.91)
recode isei_padre (813=29.30)
recode isei_padre (814=25.49)
/* CNO11 814 codes together Rubber, plastic and paper products machine operators (ISCO-08 814) and Pulp and papermaking (ISCO-08 817), we code them as ISCO-08 814 and assign corresponding ISEI scores. */recode isei_padre (815=16.80)
recode isei_padre (816=18.13)
recode isei_padre (817=16.80)
recode isei_padre (819=24.15)
recode isei_padre (820=24.93)
recode isei_padre (831=38.80)
recode isei_padre (832=21.08)
recode isei_padre (833=21.08)
recode isei_padre (834=37.92)
recode isei_padre (841=30.11)
recode isei_padre (842=25.71)
recode isei_padre (843=25.71)
recode isei_padre (844=30.11)
recode isei_padre (910=14.64)
recode isei_padre (921=14.64)
recode isei_padre (922=14.57)

recode isei_padre (931=16.50)
recode isei_padre (932=16.50)
recode isei_padre (941=25.20)
recode isei_padre (942=13.72)
recode isei_padre (943=27.91)
recode isei_padre (944=14.39)
recode isei_padre (949=27.91)
recode isei_padre (951=11.74)
recode isei_padre (952=11.74)
recode isei_padre (953=11.74)
recode isei_padre (954=11.74)
recode isei_padre (960=16.39)
recode isei_padre (970=17.55)
recode isei_padre (981=19.66)
recode isei_padre (981=19.66)
recode isei_padre (982=19.66)

Note: The following syntax is to have equivalent coding of parental and respondent's ISEI, it does not rely on information on education to recode respondents' ISEI.

gen isei_equiv= isei
replace isei_equiv= 51.63 if cno11==001
replace isei_equiv= 26.64 if cno11==562

**Coding of EGP scheme**

gen egp=cno11
recode egp (1=2)
recode egp (2=8)
recode egp (111=1)
recode egp (112=1)
recode egp (121=1)
recode egp (122=1)
recode egp (131=1)
recode egp (132=1)
recode egp (141=2)
recode egp (142=2)
recode egp (143=2)
recode egp (150=2)
recode egp (211=1)
recode egp (212=2)
recode egp (213=1)
recode egp (214=1)
recode egp (215=2)
recode egp (221=1)
recode egp (222=2)
recode egp (223=2)
recode egp (224=2)
recode egp (225=2)

```
recode egp (231=2)
recode egp (232=2)
recode egp (241=1)
recode egp (242=1)
recode egp (243=1)
recode egp (244=1)
recode egp (245=1)
recode egp (246=1)
recode egp (247=1)
recode egp (248=1)
recode egp (251=1)
recode egp (259=1)
recode egp (261=2)
recode egp (262=2)
recode egp (263=2)
recode egp (264=2)
recode egp (265=2)
recode egp (271=1)
recode egp (272=1)
recode egp (281=1)
recode egp (282=1)
recode egp (283=2)
recode egp (291=2)
recode egp (292=1)
recode egp (293=2)
recode egp (311=2)
recode egp (312=2)
recode egp (313=2)
recode egp (314=2)
recode egp (315=2)
recode egp (316=2)
recode egp (320=8)
recode egp (331=2)
recode egp (332=2)
recode egp (333=2)
recode egp (340=2)
recode egp (351=2)
recode egp (352=2)
recode egp (353=2)
recode egp (361=3)
recode egp (362=2)
recode egp (363=2)
recode egp (371=3)
recode egp (372=3)
recode egp (373=3)
recode egp (381=2)
recode egp (382=2)
recode egp (383=2)
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```
recode egp (411=3)
recode egp (412=3)
recode egp (421=3)
recode egp (422=3)
recode egp (430=3)
recode egp (441=3)
recode egp (442=3)
recode egp (443=3)
recode egp (444=3)
recode egp (450=3)
recode egp (500=2)
recode egp (511=8)
recode egp (512=9)
recode egp (521=3)
recode egp (522=3)
recode egp (530=2)
recode egp (541=3)
recode egp (542=3)
recode egp (543=3)
recode egp (549=3)
recode egp (550=3)
recode egp (561=9)
recode egp (562=9)
recode egp (571=9)
recode egp (572=9)
recode egp (581=8)
recode egp (582=3)
recode egp (583=9)
recode egp (584=2)
recode egp (589=9)
recode egp (591=8)
recode egp (592=8)
recode egp (593=8)
recode egp (594=9)
recode egp (599=9)
recode egp (611=10)
recode egp (612=10)
recode egp (620=10)
recode egp (630=10)
recode egp (641=10)
recode egp (642=10)
recode egp (643=10)
recode egp (711=9)
recode egp (712=9)
recode egp (713=8)
recode egp (719=8)
recode egp (721=8)
recode egp (722=8)
recode egp (723=8)
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recode egp (724=8)
recode egp (725=8)
recode egp (729=8)
recode egp (731=8)
recode egp (732=8)
recode egp (740=8)
recode egp (751=8)
recode egp (752=8)
recode egp (753=8)
recode egp (761=8)
recode egp (762=8)
recode egp (770=8)
recode egp (781=8)
recode egp (782=8)
recode egp (783=8)
recode egp (789=8)
recode egp (811=9)
recode egp (812=9)
recode egp (813=9)
recode egp (814=9)
recode egp (815=9)
recode egp (816=9)
recode egp (817=9)
recode egp (819=9)
recode egp (820=9)
recode egp (831=9)
recode egp (832=10)
recode egp (833=9)
recode egp (834=9)
recode egp (841=9)
recode egp (842=9)
recode egp (843=9)
recode egp (844=9)
recode egp (910=9)
recode egp (921=9)
recode egp (922=9)
recode egp (931=9)
recode egp (932=9)
recode egp (941=3)
recode egp (942=9)
recode egp (943=9)
recode egp (944=9)
recode egp (949=9)
recode egp (951=10)
recode egp (952=10)
recode egp (953=10)
recode egp (954=10)
recode egp (960=9)
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recode egp (970=9)
recode egp (981=9)
recode egp (982=9)

* Manual supervisors
replace egp=7 if cno11==320

* 4 IVa Small proprietors with employees
replace egp=4 if inlist(egp, 2, 3, 7, 8, 9) & rel_laboral==3

* 5 IVb Small proprietors without employees
replace egp=4 if inlist(egp, 2, 3, 7, 8, 9) & rel_laboral==4

* 11 IVc Self-employed farmers
replace egp=11 if egp==10 & inlist(rel_laboral, 3, 4)

label define egp 1"I High service" 2"II Lower service" 3"II Routine non-manual" 4"IVa employers except I" 5"IVb Self no employees" 7"V Manual supervisors" 8"VI Skilled manual" 9"VIIa Semi-unsk manual" 10"VIIb farm labor" 11"IVc self farm"
label values egp egp.

**Coding of Oesch class scheme**

gen oesch_16=cno11
recode oesch_16 (001=9) if estudios==6
recode oesch_16 (001=10)if estudios!=6
/* Educational attainment was used to separate Armed forces officers from Armed forces sub-officers, those with university education are assigned as officers, the remaining as sub-officers*/
recode oesch_16 (002=.)
recode oesch_16 (111=9)
recode oesch_16 (112=9)
recode oesch_16 (121=9)
recode oesch_16 (122=9)
recode oesch_16 (131=10) if inlist(cnae09, 1, 2, 3)
recode oesch_16 (131=9)
/* Sector of economic activity was used to separate Production managers in agriculture, forestry and fisheries (those with sector activity codes 1 to 3, which correspond to agriculture, forestry and fishing) from Manufacturing, mining, construction and distribution managers (the remaining) */
recode oesch_16 (132=9)
recode oesch_16 (141=10)
recode oesch_16 (142=10)
recode oesch_16 (143=10)
recode oesch_16 (150=10)
recode oesch_16 (211=13)
recode oesch_16 (212=14)
recode oesch_16 (213=13)
recode oesch_16 (214=14)

recode oesch_16 (215=14)
/* Psychologists (ISCO-08  2634) are coded together with Other health professionals under CNO11. Since we cannot separate them by other variables in the survey Psychologists are then included in this group (ISCO-08 226) although they correspond to ISCO-08 263.  */
recode oesch_16 (221=13)
recode oesch_16 (222=13)
recode oesch_16 (223=13)
recode oesch_16 (224=14)
recode oesch_16 (225=14)
recode oesch_16 (231=13)
recode oesch_16 (232=13)
recode oesch_16 (241=5)
recode oesch_16 (242=5)
recode oesch_16 (243=5)
recode oesch_16 (244=5)
recode oesch_16 (245=5)
recode oesch_16 (246=5)
recode oesch_16 (246=5)
recode oesch_16 (247=5)
recode oesch_16 (248=5)
recode oesch_16 (251=9)
recode oesch_16 (259=9)
recode oesch_16 (261=9)
recode oesch_16 (262=9)
recode oesch_16 (263=9)
recode oesch_16 (264=9)
recode oesch_16 (265=9)
recode oesch_16 (271=5)
recode oesch_16 (272=5)
recode oesch_16 (281=13)
recode oesch_16 (282=13)
recode oesch_16 (283=13)
recode oesch_16 (291=14)
recode oesch_16 (292=13)
recode oesch_16 (293=14)
recode oesch_16 (311=6)
recode oesch_16 (312=6)
recode oesch_16 (313=6)
recode oesch_16 (314=6)
recode oesch_16 (314=6)
recode oesch_16 (315=6)
recode oesch_16 (316=6)
recode oesch_16 (320=6)
recode oesch_16 (331=6)
recode oesch_16 (332=15) if inlist(cnae09, 1, 2, 3)
recode oesch_16 (332=14)

/* Sector of economic activity was used to separate Veterinary technicians and assistants (those with sector activity codes 1 to 3) from Other health associate professionals (the remaining) */
recode oesch_16 (333=14)
recode oesch_16 (340=10)
recode oesch_16 (351=10)
recode oesch_16 (352=10)
recode oesch_16 (353=10)
recode oesch_16 (361=11)
recode oesch_16 (362=10)
recode oesch_16 (363=10)
recode oesch_16 (371=14)
recode oesch_16 (372=15)
recode oesch_16 (373=14)
recode oesch_16 (381=6)
recode oesch_16 (382=6)
recode oesch_16 (383=6)
recode oesch_16 (411=11)
recode oesch_16 (412=11)
recode oesch_16 (421=11)
recode oesch_16 (422=11)
recode oesch_16 (430=11)
recode oesch_16 (441=11)
recode oesch_16 (442=11)
recode oesch_16 (443=11)
recode oesch_16 (444=11)
recode oesch_16 (444=11)
recode oesch_16 (450=11)
recode oesch_16 (500=15)
recode oesch_16 (500=10)
/* ISCO-08 500 identifies Cooks and bartenders that own their business, this corresponds to several ISCO codes assigned depending on the specific task performed (e.g. cook, bartender at the bar), since they own their own business we assign these occupations ISCO-08 141 which corresponds to Hotel and restaurant managers. */
recode oesch_16 (511=15)
recode oesch_16 (512=16)
recode oesch_16 (521=15)
recode oesch_16 (522=15)
recode oesch_16 (530=15)
recode oesch_16 (541=16)
recode oesch_16 (542=16)
recode oesch_16 (543=16)
recode oesch_16 (549=16)
recode oesch_16 (550=12)
recode oesch_16 (561=15)
recode oesch_16 (562=6) if estudios==6
recode oesch_16 (562=14) if estudios==5
recode oesch_16 (562=15)

/* Level of educational attainment was used to separate Medical and pharmaceutical technicians (ISCO-08 321) (those with a university degree), Other health associate professionals (vocational training) (ISCO-08 325) and Personal care workers in health services (lower levels of education, the remaining) (ISCO-08 532) */
recode oesch_16 (571=15)
recode oesch_16 (572=15)
recode oesch_16 (581=15)
recode oesch_16 (582=15)
recode oesch_16 (583=16)
recode oesch_16 (584=16)
recode oesch_16 (589=16)
recode oesch_16 (591=15)
/* CNO11 591 corresponds to Protective services workers (ISCO-08 541) and Regulatory government associate professionals (ISCO-08 335), we assign all ISCO-08 541 and corresponding Oesch class.*/
recode oesch_16 (592=15)
/* CNO11 592 corresponds to Protective services workers (ISCO-08 541) and Regulatory government associate professionals (ISCO-08 335), we assign all ISCO-08 541 and corresponding Oesch class.*/
recode oesch_16 (593=15)
recode oesch_16 (594=15)
recode oesch_16 (599=15)
recode oesch_16 (611=7)
recode oesch_16 (612=7)
recode oesch_16 (620=7)
recode oesch_16 (630=7)
recode oesch_16 (641=7)
recode oesch_16 (642=7)
recode oesch_16 (643=7)
recode oesch_16 (711=7)
recode oesch_16 (712=7)
recode oesch_16 (713=7)
recode oesch_16 (719=7)
recode oesch_16 (721=7)
recode oesch_16 (722=7)
recode oesch_16 (723=7)
recode oesch_16 (724=7)
recode oesch_16 (725=7)
recode oesch_16 (729=7)
recode oesch_16 (731=7)
recode oesch_16 (732=7)
recode oesch_16 (740=7)
recode oesch_16 (751=7)
recode oesch_16 (752=7)
recode oesch_16 (753=7)
recode oesch_16 (761=7)
recode oesch_16 (762=7)
recode oesch_16 (770=7)

```
recode oesch_16 (781=7)
recode oesch_16 (782=7)
recode oesch_16 (783=7)
recode oesch_16 (789=7)
recode oesch_16 (811=8)
recode oesch_16 (812=8)
recode oesch_16 (813=8)
recode oesch_16 (814=8)
recode oesch_16 (815=8)
recode oesch_16 (816=8)
recode oesch_16 (817=8)
recode oesch_16 (819=8)
recode oesch_16 (820=8)
recode oesch_16 (831=7)
recode oesch_16 (832=7)
recode oesch_16 (833=7)
recode oesch_16 (834=8)
recode oesch_16 (841=8)
recode oesch_16 (842=7)
recode oesch_16 (843=7)
recode oesch_16 (844=8)
recode oesch_16 (910=16)
recode oesch_16 (921=16)
recode oesch_16 (922=16)
recode oesch_16 (931=16)
recode oesch_16 (932=16)
recode oesch_16 (941=16)
recode oesch_16 (942=16)
recode oesch_16 (943=8)
recode oesch_16 (944=8)
recode oesch_16 (949=8)
recode oesch_16 (951=8)
recode oesch_16 (952=8)
recode oesch_16 (953=8)
recode oesch_16 (954=8)
recode oesch_16 (960=8)
recode oesch_16 (970=8)
recode oesch_16 (981=8)
recode oesch_16 (982=8)

*1 - Large employers and self-employed professionals
recode oesch_16 (5=1) if inlist(rel_laboral, 3, 4)
recode oesch_16 (9=1) if inlist(rel_laboral, 3, 4)
recode oesch_16 (13=1) if inlist(rel_laboral, 3, 4)

*3 - Small business owners with employees
replace oesch_16=3 if rel_laboral==3 & oesch_16!=1

*4 - Small business owners without employees
```

```
replace oesch_16=4 if rel_laboral==4 & oesch_16!=1


label define oesch_16 ///
1 "Self-employed professionals" ///
3 "Small business owners with employees" ///
4 "Small business owners without employees" ///
5 "Technical experts" ///
6 "Technicians" ///
7 "Skilled crafts workers" ///
8 "Low-skilled production workers" ///
9 "Higher-grade managers and administrators" ///
10 "Lower-grade managers and administrators" ///
11 "Skilled clerks" ///
12 "Low-skilled clerks" ///
13 "Socio-cultural professionals" ///
14 "Socio-cultural semi-professionals" ///
15 "Skilled service workers" ///
16 "Low-skilled service workers"
label value oesch_16 oesch_16
tab oesch_16

recode oesch_16 (1=1)(3 4=2)(5 6=3)(7 8=4)(9 10=5)(11 12=6)(13 14=7)(15 16=8),
gen(oesch_8)
label define oesch_8 ///
1 "Self-employed professionals" ///
2 "Small business owners" ///
3 "Technical (semi-)professionals" ///
4 "Production workers" ///
5 "(Associate) managers" ///
6 "Clerks" ///
7 "Socio-cultural (semi-)professionals" ///
8 "Service workers"
label value oesch_8 oesch_8
tab oesch_8
```