Scaling Occupations in Intergenerational Research -

An Evaluation with Swedish register data

Martin Hällsten*

Department of Sociology, Stockholm University

January 23, 2020

4,732 words

Abstract (174 words)

We evaluate how different occupational scales prevalent in the literature can capture intergenerational transmissions in Sweden. Previous research is limited by not taking competing dimensions of SES transmission into account when assessing performances of occupational scales. Using Swedish administrative data, we find, in contrast to classical findings, that the composite *International Socio-Economic Index of occupational status* (ISEI) has the highest intergenerational correlations net of other SES dimensions (education, income and wealth), followed by Treiman measure of occupational prestige (SIOPS).¹ The now popular measure of occupational education following from Hauser and Warren (1997) suffer from slightly larger overlap with education; more of its intergenerational correlation is explained by parents' education. However, similar to Hauser and Warren, we find monetary scales of occupations based on earnings or wages to have lower intergenerational significance. The CAMSIS scale for status lies in between occupational earnings and education.

---

* Email to martin.hallsten@sociology.su.se. I thank Erik Bihagen, Robert Erikson and Max Thaning for comments.

¹ NB! In an earlier version, we did not include ISEI in the analysis. That version concluded that SIOPS had the strongest intergenerational correlations, but this position is now taken over by ISEI.

Introduction

Occupation is the workhorse in sociological studies on inequality. It is the empirical base for measures of (big) social classes (Erikson and Goldthorpe 1992), microclasses (Weeden and Grusky 2005), gradational measures of occupational prestige (Treiman 1977), social status (Chan and Goldthorpe 2007), and a wide range of socio-economic indices that scale occupation by their average earnings and education, such as the Duncan SEI (Duncan 1961). Virtually any study using some occupation-derived measure shows that it has strong structuring effects their social outcome. While having the same empirical base, i.e. fine grained occupational categories, all the different measures referenced above depart from different theoretical assumptions and claims to represent different social mechanisms and processes. Despite this, all occupation derivatives correlate highly, and sometimes overlap very strongly (Lambert and Bihagen 2014). In light of this, the abundance of fundamentally different explanations attached to occupation means that it will be very difficult to attach a strong interpretation with any credibility (Lambert and Bihagen 2018). This gives the research a minefield character: there is little agreement on anything, with the literature being organized into different schools with their own canonical references (e.g., nominalists and gradationalists).

One important part of the problem is that occupation lacks any well-defined measurement scale. For the other dimensions of socio-economic standing (SES) — education, income and wealth — the measurement scale is inherent, but occupation is just an empty categorical structure. A possible solution to this dilemma is the empiricist approach to use all available information on occupation, i.e., in the analogy of regression analysis: to enter a full dummy (fixed effect) representation of occupation in the regression equation. By treating occupation simply as categorical measure down to its lowest level of aggregation (as opposed to considerably more aggregated big or microclasses), this will capture all of the variance

related to occupation. One can even turn this into a continuous scale by using the predicted values for each occupation (Hällsten and Pfeffer 2017). This gives the full flexibility of a continuous measure, i.e., to study interactions and compare to other SES dimensions. However, any substantive meaning of occupation is entirely lost with this approach, and it will just be some scale that explains all that occupation can potentially explain, but it will not disclose the essence of what occupation really is. Nevertheless, this approach is only feasible when occupation is the independent variable; whenever occupation is also the outcome (as in the intergenerational literature), one is forced to use some operational definition.

In the American gradational tradition, Duncan's SEI has been most widely used. Occupational prestige (following Treiman 1977) was early on rejected as being subordinate to composite socio-economic scales, i.e., the Duncan's SEI. Featherman and Hauser (1976) found that intergenerational persistence were much lower for prestige measures (including Treiman's SIOPS), and concluded that prestige scores are error prone estimates of the socioeconomic attributes of occupations, and that prestige is substantially different from socioeconomic status.² However, only in their last analysis did they control for intergenerational transmissions in other SES dimensions. That analysis also only controlled for father's education in a model where three occupational indices were constrained to represent one single occupational dimension, not potentially independent dimensions.

Hauser and Warren (1997) later claimed in an even more influential paper that socio-economic indices based on income and education were scientifically obsolete because the important variation stemmed from only education. They also showed, again, that occupational prestige underperformed, but also was giving a bad representation of women's labor market

---

² A paradox here is that Duncan's SEI was constructed as an approximation of prestige, which is often forgotten. But since prestige is deemed irrelevant, it is unclear what any alternative scales then is intended to measure, if they are only based on alternative dimensions of SES such as education and income, and how they are related. The performance of different scales is typically assessed via inter and intragenerational correlations patterns, but the essence of occupational transmission is a black box.

opportunities. Their take home message was that the average education within an occupation, in short occupational education, was the most important measure in intergenerational transmissions. However, Hauser and Warren were occupied only with occupation based measures, and different to Featherman and Hauser (1976), they did not contrast their measures of occupation to intergenerational transmission in any other dimensions of SES, i.e., education or income in itself, or other measures such as wealth. One may strongly suspect that occupational education appears important because it captures some of the intergenerational transmissions of education. Hence, any advice on the most optimal representation of occupation must not assess only its bivariate relation to some outcome, but must also relate it to other competing factors and explanations, in this case different SES dimensions. This point is even more important if researcher intend to make strong interpretations of any unique feature of their measure of occupation vis-à-vis other measures.

The aim of this note is to assess different gradational scales of occupation for intergenerational inequality transmission in a simple two generation parent-child model, following the status attainment tradition of Blau and Duncan (1967) or the Wisconsin model (Sewell, Haller and Portes 1969; Sewell and Hauser 1975) where several SES dimensions can be transmitted across generations, and where the SES transmissions can be regarded as dimension specific (Hauser 1972; Hauser, Tsai and Sewell 1983). The scales we consider include occupational prestige (Treiman's SIOPS), occupational status (the CAMSIS scale), the international version of the Duncan index (ISEI), Hauser and Warren's measures of occupational education, occupational earnings, and occupational wage. Categorical measures such as big classes (EGP) or micro-classes are beyond the scope of this paper. First, we assess and compare the intergenerational correlation in these measures. In a second step, we scrutinize the overlap with other SES dimensions of parents' education, but also income and wealth.

We find that the ISEI scales, has the highest intergenerational correlations net of other SES dimensions (education, income and wealth), followed by the Treiman measure of occupational prestige (SIOPS). The popular measure of occupational education following from Hauser and Warren (1997) suffer from slightly larger overlap with education; more of its intergenerational correlation is explained by parents' education, and less of a unique component remains net of other SES controls. However, similar to Hauser and Warren, we find monetary scales of occupations based on earnings or wages to have lower intergenerational significance.

Data and methods

We use Swedish register data and define cohorts born in 1940 to 1949 as the parental generation. We match these to their children using the multigenerational register based on medical birth records (Statistics Sweden 2010) and require that the children above age 30 in our last year of data in 2012 (i.e., cohorts born <1983). The mean age of children in 2012 is 41, with a range between 30 and 56.

Occupation is measured from two data sources: the censuses 1985 and 1990 (for the parental generation) and the occupation registers 2001-2012 (for their children). This means that the oldest of parents must be alive to their 45th birthday, i.e. at least to 1985. Our use of wealth data starting in 1999 however restricts this further to their 59th birthday. The censuses contain occupational self-reports, whereas the occupation register is built on employer reports and some imputation based on industry codes for smaller firms (Statistics Sweden 2004). The censuses also contain the detailed NYK85 code, whereas the occupation registers use the Swedish version SSYK of the international ISCO-88 measure (Statistics Sweden 1998) on a three digit level. We have cross-walked the NYK85 to SSYK, which is unproblematic. We have access to the SSYK/ISCO on 3 digit level, meaning that we can separate out 111

different occupations. All our measures of occupation will be based on this grid of ISCO codes for both generations.

Different occupation scales

We use five different scales of occupations that we either merge from existing data sources (e.g., Bihagen 2007) or construct ourselves from Swedish register data:

Occupational prestige (SIOPS). This is the Treiman score of occupational prestige (Treiman 1977). We use the conversion tools as developed by Ganzeboom and Treiman (1996) to match it to 3 digit ISCO.

International Socio-Economic Index of occupational status (ISEI). This is the international version of Duncan's SEI (Ganzeboom, De Graaf and Treiman 1992). The ISEI was derived from more than 70,000 men from 16 countries. The scales is constructed by an optimal scaling procedure, where occupations scores are constructed to maximize the role of occupation as an intervening variable between education and income (i.e., not to using occupational prestige as a criterion as in the original index (Duncan 1961)). It should be noted that the ISEI and SIOPS are the only of our measures that is not estimated using Swedish source data, but its derivation is based on the crosswalks as described by Ganzeboom and Treiman.

Occupational status (CAM SIS). This measure is based on intermarriage patterns across occupations (Prandy and Lambert 2003) using in the 1990 Swedish census (Lambert and Bihagen 2003). It is derived along the same principles as the Chan and Goldthorpe's (2007) status scale and has been used to indicate social status (Torssander and Erikson 2009; Bukodi, Erikson and Goldthorpe 2014; Erikson 2016). Even though the CAMSIS scale has been used for many different purposes, we follow this later line of literature and denote it to represent 'status' just for naming purposes. However, we should at the same time point out

that it is unlikely that the measure, like any of the scales used here, can adequately capture a distinct status dimension since the overlap with measures of discrete big classes, such as EGP with a different theoretical foundation, is very large. The different measures also show very similar predictions on e.g., health and unemployment outcomes (Lambert and Bihagen 2018).

Occupational education. Hauser and Warren (1997) suggested that occupational education was the most important occupation dimension for intergenerational mobility models. We use data on highest attained education from the population level education registers (Statistics Sweden 2005). These registers started in 1985, which again means that at least one parent per child needs to stay alive until at least their 45th birthday. The registers used information from school graduation records, but in some cases also other administrative registers, self-reports in the 1985 and 1990 census, and self-reports for immigrants in a special complementary survey. In this study, we construct occupational education for both generations with data for the period 2002 to 2012 and code this to years of education and average across 3 digit ISCO. This is then merged to individual and parents using the same ISCO codes from the sources described above.

Occupational earnings. The other dimension of occupation typically used in socio-economic indices such as the Duncan SEI is the earnings attached to each occupation. We use information from tax records of labor earnings including work related transfer such as parental leave (but excluding other transfers), and drop those earning less than 10,000 SEK per month to get a measure that better reflect full-time work. Similar approaches has been used by Antelius and Björklund (2000) and Erikson et al. (2007). However, this measure is still limited by the fact that it is not explicitly adjusted for working hours, and that the truncation is somewhat ad hoc. We log the earnings, and then take the median for 3 digit ISCO categories.³

---

³ We have also taken means, and calculated the moment before or after taking logs. The differences across measures were negligible, but the median measure we used showed the largest intergenerational correlation.

Occupational wage. In order to achieve a more exact measure of the price of labor linked to occupations, we used data from the wage structure databases in Sweden. These contain records of monthly wages for a dominant part of the Swedish economy. This data consists of total counts for the public sector and private firms with more than 500 employees. For midsize and small private firms, data is collected via a cluster sample of firms (with total counts within firms). Some occupations within the private sector will have a low representation in the data, and we therefore use a very long period (1998-2012) as the base for our 3 digit ISCO averages. One consequence is that whenever an occupation is present in both the private and public sector, the condition in the latter sector will dominate our measure, which potentially could lead to a downward bias in wages. The occupational earnings and occupational wage measures should be seen as complementary, each with their specific distortions.

Hauser and Warren (1997) for some reason favor occupational measures based on proportions above some threshold. We have computed analogs of the education, earnings and wage based measures following this logic in auxiliary analyses. For education, we have used the proportion with tertiary education and above; for earnings, the proportion that earns above the median, and the same for wage.

Other SES dimensions

Since our aim is to test the occupational scales against other SES dimensions, we also measure the other common dimensions of SES. For education, we measure it from 1985 and onwards with the start of the education register. We measure the highest attained level of education of both parents and children, and code this to year of education equivalents.

Our income data stretches back to 1968, which means that we can observe something close to life-time income for parents. For children, their earnings will typically be mid to the

late career, which probably is fairly representative of permanent income (Böhlmark and Lindquist 2006). The income concept we use is disposable income, i.e., with government transfers and after tax deductions.

For wealth, we use the wealth register that existed from 1999 until 2007, when the Swedish wealth tax was abolished.⁴ We compute the average of net worth in the available years to reduce measurement error.

Aggregating information across parents

For individuals as well as parents, we follow the convention to take the highest value across one's observable careers as the measure to represent the individual. We use this for all the occupation measures and the other SES controls. In order to combine the information on fathers and mothers, we deviate somewhat from this convention (which more than often also take the highest, or dominant value across mothers and fathers) and instead follow Thaning and Hällsten (2018) by taking averages. Table A1 describes all variables in our analyses.

Transforms

We use the ISEI, SIOPS and CASMIN in their original scales. Occupational education is expressed as an average of years, and we stick to this scale. We log occupational earnings and wage, before taking means across occupations. For the proportion based measures, we use their original proportion metric, but also transformed to the started logit (as proposed by Hauser and Warren 1997, p. 204) and to ranks. For parents years of education, we use years as the scale, and income is used in log form. Wealth is transformed into ranks since the high

---

⁴ This register departs from tax data (essentially self-reported but subject to legal responsibility and possible prosecution for tax fraud), but then independently collects data from banks and estate registers without censoring. All types of estate are rated at their market value (rather than some nominal tax value). Utilizing the wealth register however means that the oldest parent must be alive to at least their 59th birthday.

skew of wealth is problem that few transforms except rank can handle (Killewald, Pfeffer and Schachner 2017);.

Methods

We rely on simple intergenerational transfer models, where children's occupation status is regression on parents' status in linear OLS regressions. Since the distribution across generations can differ, we rely on the intergenerational correlations (IGC), as captured by the standardized regression coefficient. We modify this model by including controls in the parental generation, and then examine how much of the IGC that is explained by competing measures and how much remains.

Results

Table 1 shows the intergenerational correlations in our six occupation scales. It is evident that the monetary scales have much lower intergenerational correlations, around .25. for both genders, the highest correlation is found for ISEI at .35, closely followed by prestige (SIOPS) on .34 and occupational education also on .34. While we find small differences between the SIOPS prestige scale and occupational education, Hauser and Warren (1997) found the former intergenerational correlation to be generally weaker (see their Table 5). Hauser and Warren also showed that occupational prestige is ill fitted to describe the occupations of women. For example, they found lower intergenerational correlation in prestige from women, when compared to occupational education (again, see their Table 5). This is, however, not apparent in our results: the intergenerational correlations are remarkably similar across genders. Two occupational scales are substantially stronger for men: occupational education and status (ISEI and CAMSIS), whereas there is a tendency that the monetary scales are stronger for women. It should be noted that the purpose here does not distinguish between father and

mother specific transfers, which is beyond the scope for the present question; the gendered analyses here focuses only on the child. Table A2 shows the intergenerational correlations for the proportion and threshold based measures of occupational education, earnings and wage, as suggested by Hauser and Warren. The correlations are always lower than for those based on means or median as shown in Table 1. It is likely that this procedure uses information less efficient since it involves dichotomizing the data, and this is what drives the lower correlations. It is then appears as rather unclear why some parts of the literature has come to endorse this inferior specification (Hauser and Warren 1997 never comment on this particular choice).

The upper panel of Table 2 shows how the occupation scales are correlated in the parental generation, and how they relate to other SES dimensions. It is clear that the relations between occupational education and the monetary scales are rather weak (Lambert and Bihagen 2014) at around .68. The monetary measures themselves are very highly correlated (.97), which suggest that neither of these indicators display any acute measurement bias. The prestige and status scales are similarly more weakly correlated to the monetary measures, but stronger to occupation education (.77-.82).

In the child generation, as shown in the lower panel of Table 2, the divide between monetary and non-monetary measures is even more accentuated (but since the source data is the same, this is entirely compositional). Even though all SES dimensions are correlated, we find the strongest correlations between the occupational scales and the other SES dimensions for occupational education and education (.71), followed by prestige and education (.58). Our conjecture that occupational education will overlap with education is thus true, but this also holds for prestige, but to a slightly lesser degree. One peculiar finding is that occupational education is completely unrelated to wealth in the child generation, whereas wealth is positively but weakly related to all other occupation scales.

Table 3 shows how each of the five occupation scales change when we include controls for other SES dimensions. For each occupation scale, we replay the bivariate intergenerational correlation, then add parents' education as an explanatory factor, and finally also include income and wealth.

For occupational education in Model 1, the unique contribution net of parents' education in model 2, is much weaker than for both SIOPS and ISEI (models 11 and 14). With controls also for parents' income and controls in, the differences across these three measures diminish, but occupational education still comes out with a weaker intergenerational correlation than ISEI and SIOPS. We find the strongest net intergenerational correlation for ISEI, with SIOPS in 2nd position. In Table A3 and A4, the models are estimated separately for males and females, but the conclusions remains the same. Somewhat ironically, the difference between occupational education and prestige is larger for females (compare Model 3 and 12) than for males.

In Table 4, we turn the question on its head and ask how much of the intergenerational correlation in education, income and wealth that is explained by the occupation scales. It turns out that occupational education and SIOPS prestige come out very similarly in this exercise: they explain roughly equal shares of the intergenerational correlation in education, even though SIOPS is stronger. ISEI explains less of educational transmissions. Hence, while more of occupational education is explained by parents' education, both as a proportion and in absolute terms, than occupational prestige, they are not different in the degree to which they tap children's educational outcomes. The other occupational measures, monetary scales and status, explain much less of children's education. For income and wealth, the occupational scales are generally little relevant, and these thus more of independent SES dimensions.

Discussion

Our conclusion is that the *International Socio-Economic Index of occupational status* (ISEI), followed by Treiman's international measure of *occupational prestige* (SIOPS) has the strongest intergenerational transmission in contemporary Sweden, i.e., using register data where occupational information is coded to ISCO. The apparent superior performance of occupational education, as suggested by Hauser and Warren (1997), is in fact driven by its empirical proximity to education. Since education has an even stronger intergenerational transmission process than occupation, this spills over on occupational education and creates a seemingly stronger intergenerational correlation for this measure. However, the ISEI and SIOPS leaves the highest unique contribution to the intergenerational transfer, and thus captures a unique "occupation factor" to the largest degree of all measures. While Hauser and Warren (1997) dismissed composite scales, our analysis shows that the competitive ISEI performs rather well. And the conclusion of Featherman and Hauser (1976) that occupational prestige is inferior to measures such as the ISEI does not hold up because both perform rather well. ISEI and SIOPS has something that is more unique to occupation than the other measure. ISEI and SIOPS transmission does not just proxy for transmission of education or income.

As in previous studies, what this unique occupation factor really represents is however still unclear in our analysis. The differences across measures in their capacity as an intergenerational component is far too small to draw any firm conclusions in potential underlying mechanism. We agree with Lambert and Bihagen (2018) that it is not feasible to use the different scales for any strong theoretical interpretation. We do not believe that prestige itself captures something of more significance than e.g., status, it just happens that this measure captures intergenerational occupation processes in a slightly more optimal way. With this Swedish perspective, we think there are reasons to resurrect occupational prestige

from its grave dug by Featherman, Hauser and Warren in different constellations, and, more critically, to think twice about the more and more popular use of occupational education.

There are two limitations of our analysis. First, we use highly aggregate measures of occupation, only 111 categories of 3-digit ISCO-88. In contrast, Hauser and Warren (1997) use 501 categories. Second, as opposed to Hauser and Warren, we have no native measure of prestige for Sweden, but must rely on crosswalks to the international ISEI and SIOPS (Ganzeboom and Treiman 1996). It would be interesting to replicate Hauser and Warren's analysis with controls for competing SES dimensions, which should provide the most definite answer to this problem (especially for the US case).

References

- Antelius, Jesper, and Anders Björklund. 2000. "How Reliable are Register Data for Studies of the Return on Schooling? An examination of Swedish data." *Scandinavian Journal of Educational Research* 44:341-355.
- Bihagen, Erik. 2007. "Nya möjligheter för stratifieringsforskning i Sverige: Internationella yrkesklassificeringar och stratifieringsmått över tid [New opportunities for social stratification research in Sweden: International occupational classifications and stratification measures over time]." *Sociologisk Forskning*:52-67.
- Blau, Peter M., and Otis D. Duncan. 1967. *The American Occupational Structure*. New York: John Wiley & Sons.
- Bukodi, Erzsébet, Robert Erikson, and John H Goldthorpe. 2014. "The effects of social origins and cognitive ability on educational attainment: Evidence from Britain and Sweden." *Acta Sociologica* 57:293-310.
- Böhlmark, Anders, and Matthew J. Lindquist. 2006. "Life-Cycle Variations in the Association between Current and Lifetime Income: Replication and Extension for Sweden." *Journal of Labor Economics* 24:879-896.
- Chan, Tak Wing, and John H. Goldthorpe. 2007. "Class and Status: The Conceptual Distinction and its Empirical Relevance." *American Sociological Review* 72:512-532.
- Duncan, Otis Dudley. 1961. "A socioeconomic index for all occupations." *Class: Critical Concepts* 1:388-426.
- Erikson, Robert. 2016. "Is it enough to be bright? Parental background, cognitive ability and educational attainment." *European Societies* 18:117-135.
- Erikson, Robert, and John H. Goldthorpe. 1992. *The Constant Flux: A Study of Class Mobility in Industrial Societies*. Oxford: Clarendon Press.
- Erikson, Robert, Oskar Nordström Skans, Anna Sjögren, and Olof Åslund. 2007. "Ungdomars och invandrares inträde på arbetsmarknaden 1985–2003 ": IFAU Rapport 2007:18.
- Featherman, David L., and Robert M. Hauser. 1976. "Prestige or Socioeconomic Scales in the Study of Occupational Achievement?" *Sociological Methods & Research* 4:403-422.

- Ganzeboom, Harry B. G., Paul M. De Graaf, and Donald J. Treiman. 1992. "A standard international socio-economic index of occupational status." *Social Science Research* 21:1-56.
- Ganzeboom, Harry B.G., and Donald J. Treiman. 1996. "International Stratification and Mobility File: Conversion Tools." Utrecht: Department of Sociology, <http://home.fsw.vu.nl/HBG.Ganzeboom/ISMF/index.htm>.
- Hauser, Robert M. 1972. "Disaggregating a social-psychological model of educational attainment." *Social Science Research* 1:159-188.
- Hauser, Robert M, Shu-Ling Tsai, and William H Sewell. 1983. "A model of stratification with response error in social and psychological variables." *Sociology of Education*:20-46.
- Hauser, Robert M., and John Robert Warren. 1997. "Socioeconomic Indexes for Occupations: A Review, Update, and Critique." *Sociological Methodology* 27:177-298.
- Hällsten, Martin, and Fabian T. Pfeffer. 2017. "Grand Advantage. Family Wealth and Grandchildren's Educational Achievement in Sweden." *American Sociological Review* 82:328-360.
- Killewald, Alexandra, Fabian T. Pfeffer, and Jared Schachner. 2017. "Wealth Inequality and Accumulation." *Annual Review of Sociology* 43:379-404.
- Lambert, Paul , and Erik Bihagen. 2018. "Can class and status really be disentangled?": Manuscript.
- Lambert, Paul, and Erik Bihagen. 2003. "CAMSIS: Sweden/Sverige." <http://www.camsis.stir.ac.uk/Data/Sweden90.html>.
- Lambert, Paul S., and Erik Bihagen. 2014. "Using occupation-based social classifications." *Work, Employment and Society* 28:481-494.
- Prandy, Kenneth, and Paul Lambert. 2003. "Marriage, Social Distance and the Social Space::An Alternative Derivation and Validation of the Cambridge Scale." *Sociology* 37:397-411.
- Sewell, William H., Archibald O. Haller, and Alejandro Portes. 1969. "The Educational and Early Occupational Attainment Process." *American Sociological Review* 34:82-92.
- Sewell, William H., and Robert M. Hauser. 1975. *Education, Occupation, and Earnings: Achievement in the Early Career*: Academic Press Inc.
- Statistics Sweden. 1998. "SSYK 96: Standard för svensk yrkesklassificering 1996 [Swedish Standard Classification of Occupations]." in *Meddelanden i samordningsfrågor* 1998:3, edited by Statistics Sweden. Örebro.
- . 2004. "Yrkesregistret [The occupation register]." Örebro: Statistics Sweden.
- . 2005. "Befolkningens Utbildning: Utbildningsregistret UREG [The Population Education Register]." UF 0506. Örebro: Statistics Sweden.
- . 2010. "Flergenerationsregistret [the multigeneration register]." http://www.scb.se/Pages/List_257501.aspx, accessed 2010-03-02.
- Thaning, Max, and Martin Hällsten. 2018. "The End of Dominance? Evaluating Measures of Family Background in Stratification Research." The Department of Sociology Working Paper Series no 34.
- Torssander, Jenny, and Robert Erikson. 2009. "Stratification and Mortality--A Comparison of Education, Class, Status, and Income." *European Sociological Review* Advance Access published online on July 1, 2009
- Treiman, Donald J. 1977. *Occupational prestige in comparative perspective*. New York, NY: Academic Press
- Weeden, Kim A., and David B. Grusky. 2005. "The Case for a New Class Map." *American Journal of Sociology* 111:141-212.

Table 1. Intergenerational correlation in occupation scales

	Occupational education, yrs	Occupational earnings, ln	Occupational wage, ln	Occupational prestige, SIOPS	Occupational status, ISEI	Occupational status, CAMSIS
All	0.339***	0.243***	0.244***	0.342***	0.354***	0.311***
# Individuals	1,008,503	1,008,503	1,008,503	1,040,368	1,040,368	1,008,488
Adjusted R2	0.149	0.129	0.109	0.116	0.129	0.119
Males	0.366***	0.248***	0.250***	0.347***	0.373***	0.334***
# Individuals	517,736	517,736	517,736	533,468	533,468	517,725
Adjusted R2	0.146	0.067	0.067	0.12	0.143	0.121
Females	0.317***	0.255***	0.249***	0.337***	0.334***	0.289***
# Individuals	490,767	490,767	490,767	506,900	506,900	490,763
Adjusted R2	0.117	0.073	0.07	0.113	0.116	0.096

Note: All models controls for birth year and gender. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2. Correlations across occupation scales and other SES dimensions.

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
(a) Parents' occ. education, yrs	1								
(b) Parents' occ. earnings, ln	0.68	1							
(c) Parents' occ. wage, ln	0.66	0.97	1						
(d) Parents' occ. prestige, SIOPS	0.80	0.69	0.68	1					
(e) Occ. status, ISEI	0.77	0.69	0.68	0.92	1				
(f) Parents' occ. status, CAMSIS	0.82	0.65	0.64	0.74	0.75	1			
(g) Parents' education, yrs	0.73	0.49	0.47	0.69	0.65	0.62	1		
(h) Parents' income, ln	0.53	0.56	0.57	0.6	0.59	0.51	0.51	1	
(i) Parents' net worth, rank	0.29	0.29	0.29	0.33	0.31	0.32	0.28	0.38	1
	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
(k) Occ. education, yrs	1								
(l) Occ. earnings, ln	0.58	1							
(m) Occ. wage, ln	0.57	0.97	1						
(n) Occ. prestige, SIOPS	0.85	0.73	0.72	1					
(o) Occ. status, ISEI	0.80	0.77	0.75	0.89	1				
(p) Occ. status, CAMSIS	0.82	0.63	0.63	0.78	0.82	1			
(q) Education, yrs	0.71	0.37	0.36	0.58	0.54	0.56	1		
(r) Income, ln	0.06	0.37	0.36	0.24	0.23	0.11	-0.01	1	
(s) Net worth, rank	0.00	0.12	0.12	0.06	0.07	0.04	-0.02	0.23	1

Table 3. Intergenerational correlation in occupation scales with controls for parents' SES

	Occ. education, yrs			Occ. earnings, ln			Occ. wage, ln		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parents' occ. education, yrs	0.339***	0.187***	0.149***						
Parents' occ. earnings, ln				0.243***	0.155***	0.089***			
Parents' occ. wage, ln							0.244***	0.159***	0.089***
Parents' education, yrs		0.215***	0.185***		0.197***	0.145***		0.196***	0.143***
Parents' income, ln			0.063***			0.110***			0.114***
Parents' net worth, rank			0.097***			0.108***			0.104***
# Individuals	1,008,503	1,008,503	1,008,359	1,008,503	1,008,503	1,008,359	1,008,503	1,008,503	1,008,359
Adjusted R2	0.149	0.169	0.183	0.129	0.156	0.178	0.109	0.137	0.158

	Occ. prestige, SIOPS			Occ. status, ISEI			Occ. status, CAMSIS		
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Parents' occ. prestige, SIOPS	0.342***	0.222***	0.161***						
Parents' occ. status, ISEI				0.354***	0.241***	0.183***			
Parents' occ. status, CAMSIS							0.311***	0.184***	0.134***
Parents' education, yrs		0.181***	0.159***		0.186***	0.156***		0.220***	0.181***
Parents' income, ln			0.071***			0.078***			0.094***
Parents' net worth, rank			0.110***			0.105***			0.085***
# Individuals	1,040,368	1,040,368	1,040,209	1,040,368	1,040,368	1,040,209	1,008,488	1,008,488	1,008,344
Adjusted R2	0.116	0.133	0.149	0.129	0.148	0.165	0.119	0.148	0.163

Note: All models controls for birth year and gender. * p<0.05, ** p<0.01, *** p<0.001

Table 4. Intergenerational correlations in other SES dimensions education with controls for occupation scales

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Education	Parents' education, yrs	0.366***	0.245***	0.316***	0.319***	0.248***	0.265***	0.286***
	Parents' occ. education, yrs		0.167***					
	Parents' occ. earnings, ln			0.105***				
	Parents' occ. wage, ln				0.101***			
	Parents' occ. prestige, SIOPS					0.172***		
	Parents' occ. status, ISEI						0.157***	
	Parents' occ. status, CAMSIS							0.131***
	# Individuals	1,073,053	1,073,053	1,073,053	1,073,053	1,073,053	1,073,053	1,073,053
	Adjusted R2	0.216	0.228	0.224	0.223	0.231	0.23	0.226
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Income	Parents income, ln	0.435***	0.434***	0.433***	0.432***	0.433***	0.433***	0.433***
	Parents' occ. education, yrs		0.012***					
	Parents' occ. earnings, ln			0.027***				
	Parents' occ. wage, ln				0.029***			
	Parents' occ. prestige, SIOPS					0.025***		
	Parents' occ. status, ISEI						0.028***	
	Parents' occ. status, CAMSIS							0.024***
	# Individuals	1,080,537	1,080,537	1,080,537	1,080,537	1,080,537	1,080,537	1,080,537
	Adjusted R2	0.287	0.287	0.288	0.288	0.288	0.288	0.288
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wealth	Parents' net worth, rank	0.343***	0.350***	0.343***	0.341***	0.346***	0.343***	0.345***
	Parents' occ. education, yrs		-0.027***					
	Parents' occ. earnings, ln			0.003**				
	Parents' occ. wage, ln				0.008***			
	Parents' occ. prestige, SIOPS					-0.007***		
	Parents' occ. status, ISEI						0	
	Parents' occ. status, CAMSIS							-0.006***
	# Individuals	1,062,115	1,062,115	1,062,115	1,062,115	1,062,115	1,062,115	1,062,115
	Adjusted R2	0.126	0.127	0.126	0.126	0.126	0.126	0.126

Note: All models control for birth year and gender. * p<0.05, ** p<0.01, *** p<0.001

Table A1. Descriptives

	Mean	(SD)	Min	Max	Count
Birth year	1970.68	(5.33)	1956	1982	1,084,396
Age in 2012	41.32	(5.33)	30	56	1,084,396
Female	0.49	(0.50)	0	1	1,084,396
Parents' occ. education, yrs	12.03	(1.55)	9.3	17.1	1,084,396
Parents' occ. earnings, ln	5.61	(0.19)	5.2	6.4	1,084,396
Parents' occ. wage, ln	10.06	(0.20)	9.7	11.1	1,084,396
Parents' occ. prestige, SIOPS	47.75	(9.83)	13	78	1,084,396
Parents' occ. status, ISEI	49.64	(13.18)	16	90	1,084,396
Parents' occ. status, CAMSIS	54.58	(13.31)	14.8	99	1,084,396
Parents' education, yrs	10.77	(2.82)	6	19	1,084,396
Parents' income, ln	4.93	(0.29)	-3.2	12.1	1,084,361
Parents' net worth, rank	0.51	(0.29)	0	1	1,084,214
Occ. education, yrs	12.64	(1.79)	9.3	17.1	1,008,503
Occ. earnings, ln	5.7	(0.25)	5.2	6.4	1,008,503
Occ. wage, ln	10.15	(0.25)	9.7	11.1	1,008,503
Occ. prestige, SIOPS	48.46	(12.21)	13	78	1,040,368
Occ. status, ISEI	51.75	(16.25)	16	90	1,040,368
Occ. status, CAMSIS	59.17	(14.52)	14.8	99	1,008,488
Education, yrs	12.77	(2.23)	6	19	1,073,053
Income, ln	4.6	(0.52)	-5	10.1	1,077,291
Net worth, rank	0.5	(0.29)	0	1	1,062,258

Table A2. Intergenerational correlation in proportion based occupation scales

	P(edu $\geq$ tertirary)			P(earnings $\geq$ median)			P(wage $\geq$ median)		
	Proportion	Started logit	Ranks	Started logit	Ranks	Started logit	Started logit	Ranks	Started logit
All	0.300***	0.295***	0.323***	0.222***	0.219***	0.225***	0.227***	0.228***	0.238***
# Individuals	1,008,503	1,008,503	1,008,503	1,008,503	1,008,503	1,008,503	1,008,503	1,008,503	1,008,503
Adjusted R2	0.09	0.087	0.104	0.049	0.048	0.051	0.051	0.052	0.057
Males	0.337***	0.342***	0.359***	0.211***	0.210***	0.218***	0.215***	0.221***	0.233***
# Individuals	517,736	517,736	517,736	517,736	517,736	517,736	517,736	517,736	517,736
Adjusted R2	0.114	0.117	0.129	0.045	0.044	0.048	0.046	0.049	0.055
Females	0.278***	0.268***	0.299***	0.252***	0.247***	0.249***	0.254***	0.248***	0.255***
# Individuals	490,767	490,767	490,767	490,767	490,767	490,767	490,767	490,767	490,767
Adjusted R2	0.077	0.072	0.089	0.064	0.061	0.062	0.064	0.062	0.065

Note: * p<0.05, ** p<0.01, *** p<0.001

Table A3. Intergenerational correlation in occupation scales with controls for parents' SES for males.

	Occ. education, yrs			Occ. earnings, ln			Occ. wage, ln		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parents' occ. education, yrs	0.366***	0.204***	0.161***						
Parents' occ. earnings, ln				0.248***	0.163***	0.092***			
Parents' occ. wage, ln							0.250***	0.169***	0.095***
Parents' education, yrs		0.229***	0.197***		0.189***	0.133***		0.186***	0.130***
Parents' income, ln			0.085***			0.124***			0.127***
Parents' net worth, rank			0.080***			0.103***			0.097***
# Individuals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	517,736	517,736	517,663	517,736	517,736	517,663	517,736	517,736	517,663

	Occ. prestige, SIOPS			Occ. status, ISEI			Occ. status, CAMSIS		
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Parents' occ. prestige, SIOPS	0.347***	0.228***	0.166***						
Parents' occ. status, ISEI				0.373***	0.253***	0.192***			
Parents' occ. status, CAMSIS							0.334***	0.198***	0.145***
Parents' education, yrs		0.180***	0.157***		0.198***	0.167***		0.236***	0.192***
Parents' income, ln			0.081***			0.093***			0.116***
Parents' net worth, rank			0.094***			0.088***			0.068***
# Individuals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	533,468	533,468	533,389	533,468	533,468	533,389	517,725	517,725	517,652

Note: All models controls for birth year and gender. * p<0.05, ** p<0.01, *** p<0.001

Table A4. Intergenerational correlation in occupation scales with controls for parents' SES for females.

	Occ. education, yrs			Occ. earnings, ln			Occ. wage, ln		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parents' occ. education, yrs	0.317***	0.173***	0.140***						
Parents' occ. earnings, ln				0.255***	0.158***	0.092***			
Parents' occ. wage, ln							0.249***	0.155***	0.087***
Parents' education, yrs		0.204***	0.177***		0.219***	0.166***		0.216***	0.164***
Parents' income, ln			0.041***			0.104***			0.105***
Parents' net worth, rank			0.119***			0.120***			0.117***
# Individuals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	490,767	490,767	490,696	490,767	490,767	490,696	490,767	490,767	490,696

	Occ. prestige, SIOPS			Occ. status, ISEI			Occ. status, CAMSIS		
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Parents' occ. prestige, SIOPS	0.337***	0.216***	0.155***						
Parents' occ. status, ISEI				0.334***	0.228***	0.173***			
Parents' occ. status, CAMSIS							0.289***	0.170***	0.123***
Parents' education, yrs		0.183***	0.160***		0.173***	0.144***		0.206***	0.170***
Parents' income, ln			0.061***			0.062***			0.070***
Parents' net worth, rank			0.127***			0.123***			0.106***
# Individuals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R2	506,900	506,900	506,820	506,900	506,900	506,820	490,763	490,763	490,692

Note: All models controls for birth year and gender. * p<0.05, ** p<0.01, *** p<0.001