

Carneiro, Pedro et al.

Working Paper

Intergenerational income mobility in England and the importance of education

IFS Working Paper, No. W22/23

Provided in Cooperation with:

Institute for Fiscal Studies (IFS), London

Suggested Citation: Carneiro, Pedro et al. (2022) : Intergenerational income mobility in England and the importance of education, IFS Working Paper, No. W22/23, Institute for Fiscal Studies (IFS), London,
<https://doi.org/10.1920/wp.ifs.2022.2223>

This Version is available at:

<https://hdl.handle.net/10419/267954>

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Intergenerational mobility: comparing the UK, Denmark and Norway

June 2022

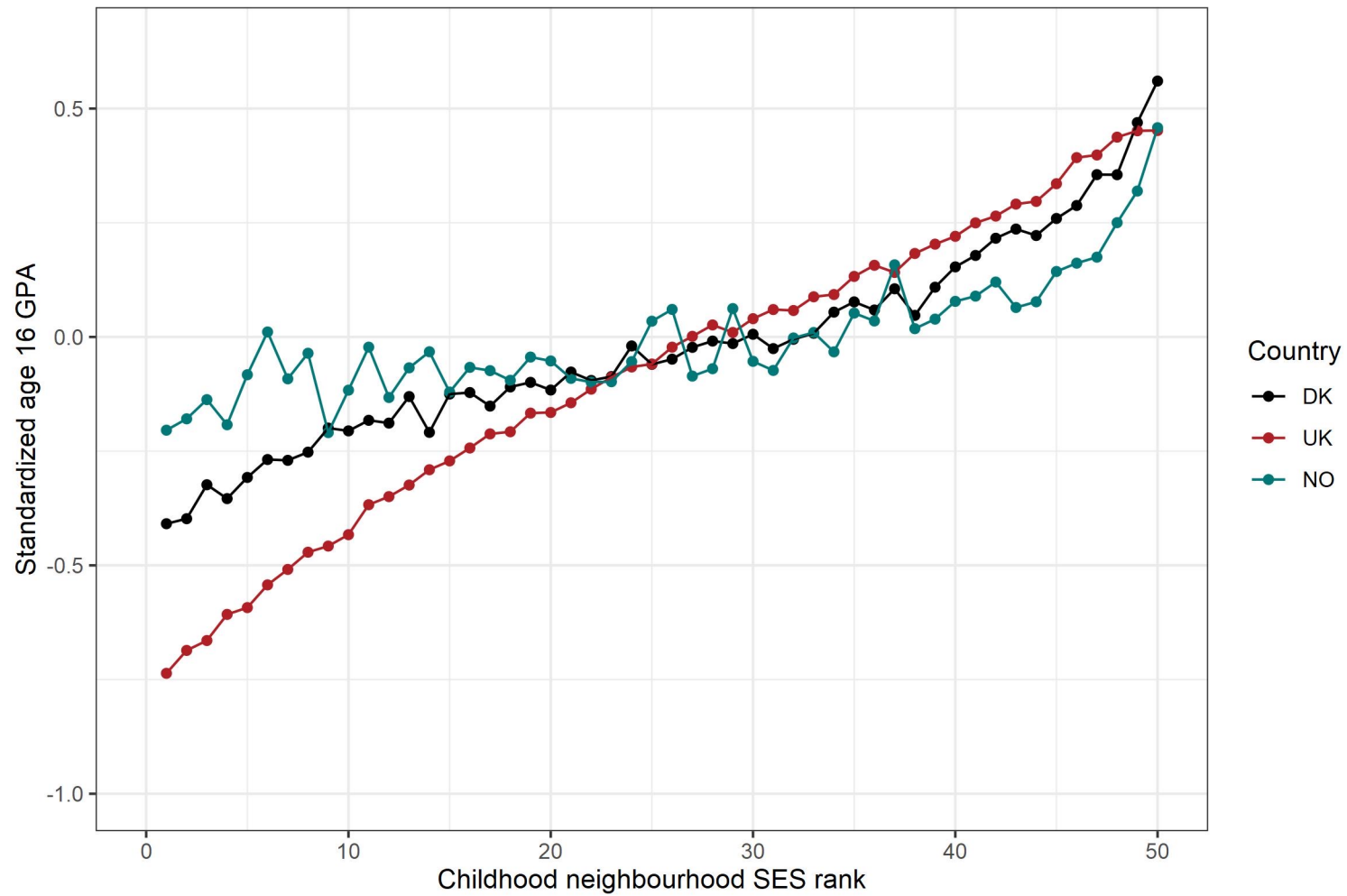
Summary

- Inequality by neighborhood SES is largest in UK followed by Denmark. The association is lowest in Norway.
- Inequality in skills are largest in UK but also large in Denmark. They are, however, low in Norway.
- Returns to skills on outcomes (labelled primary effects below) are highest in UK followed by Norway. They are lowest in Denmark.
- Effect of neighborhood SES (labelled secondary effects below) are highest in UK and Denmark. They are low in Norway.
- Skill inequality and inequality by neighborhood SES is strongest in low SES neighborhoods in UK and Denmark but not in Norway.

Results, all

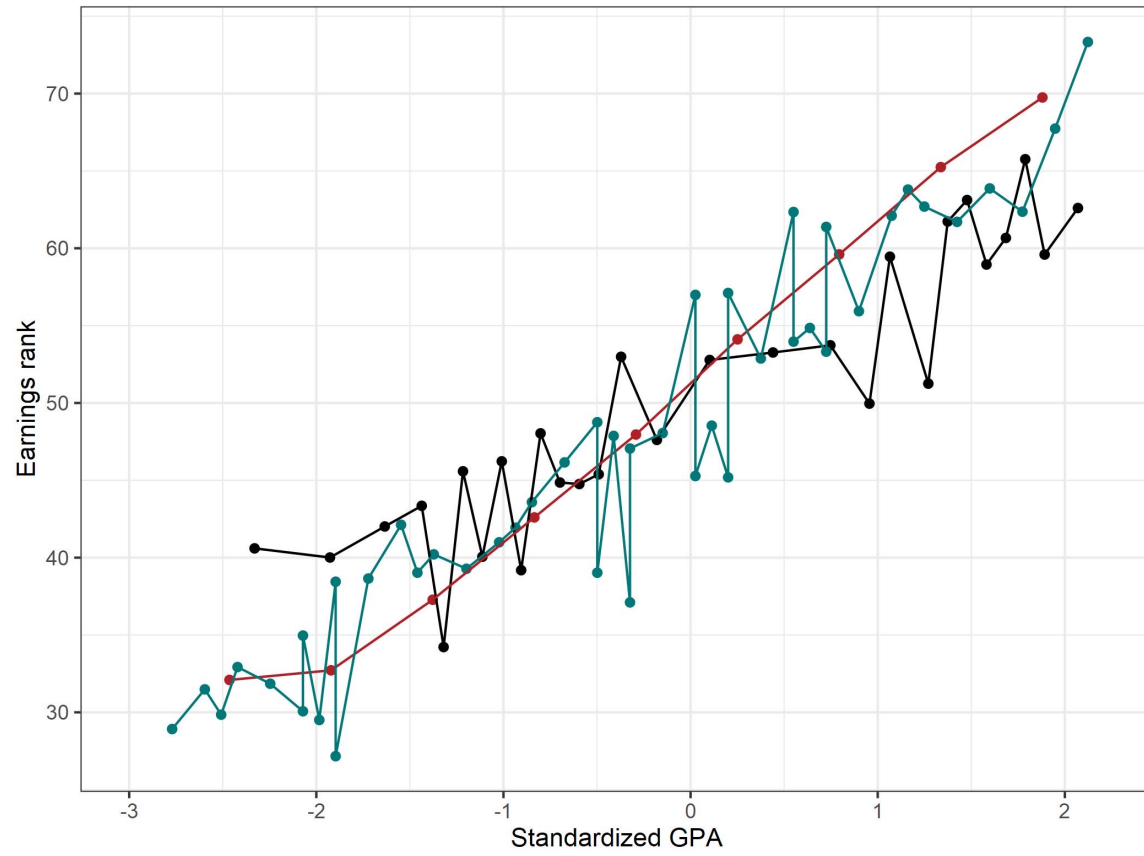
GPA

GPA, age 16, by SES of neighborhood

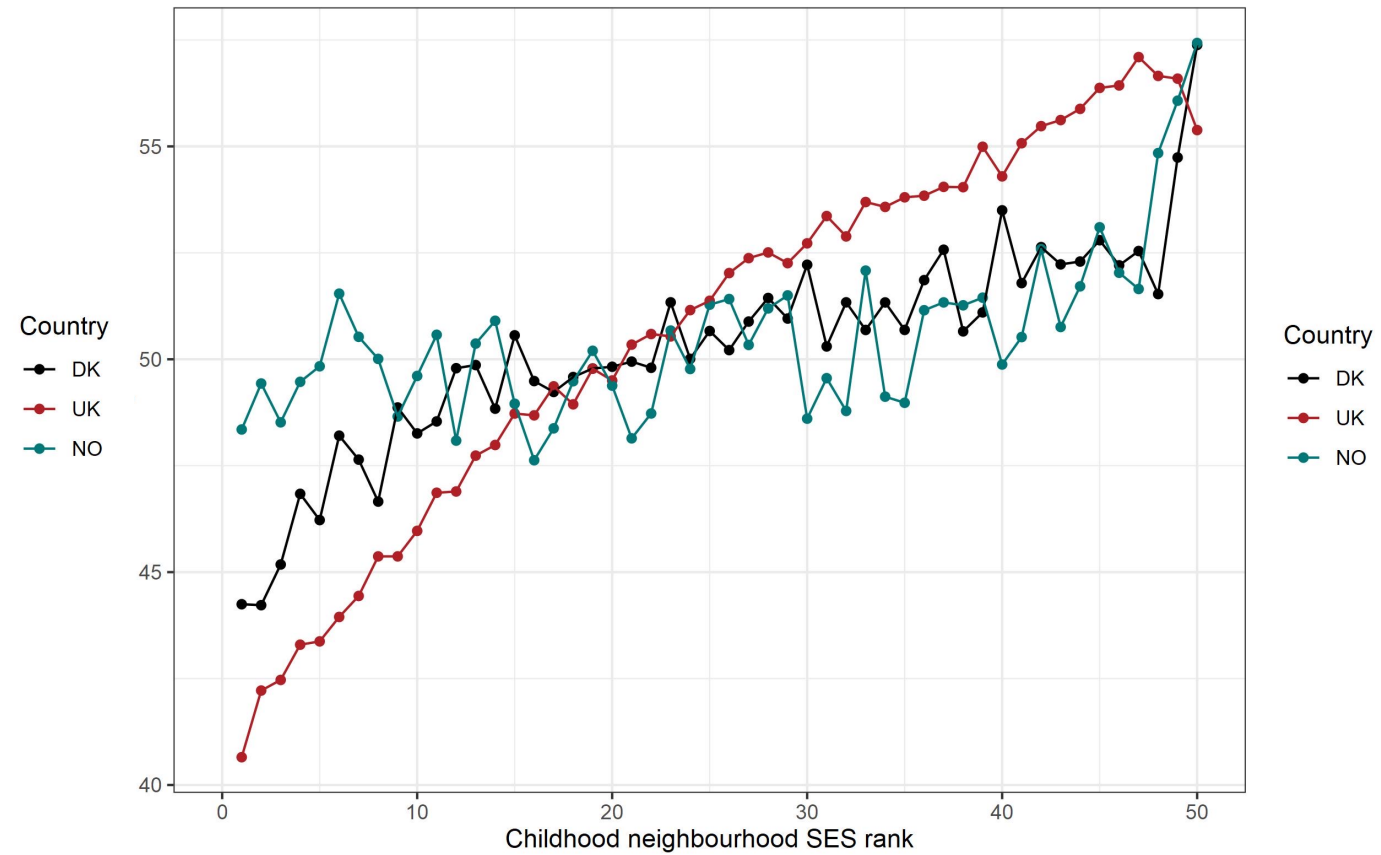


Earnings rank

A) Earnings by GPA

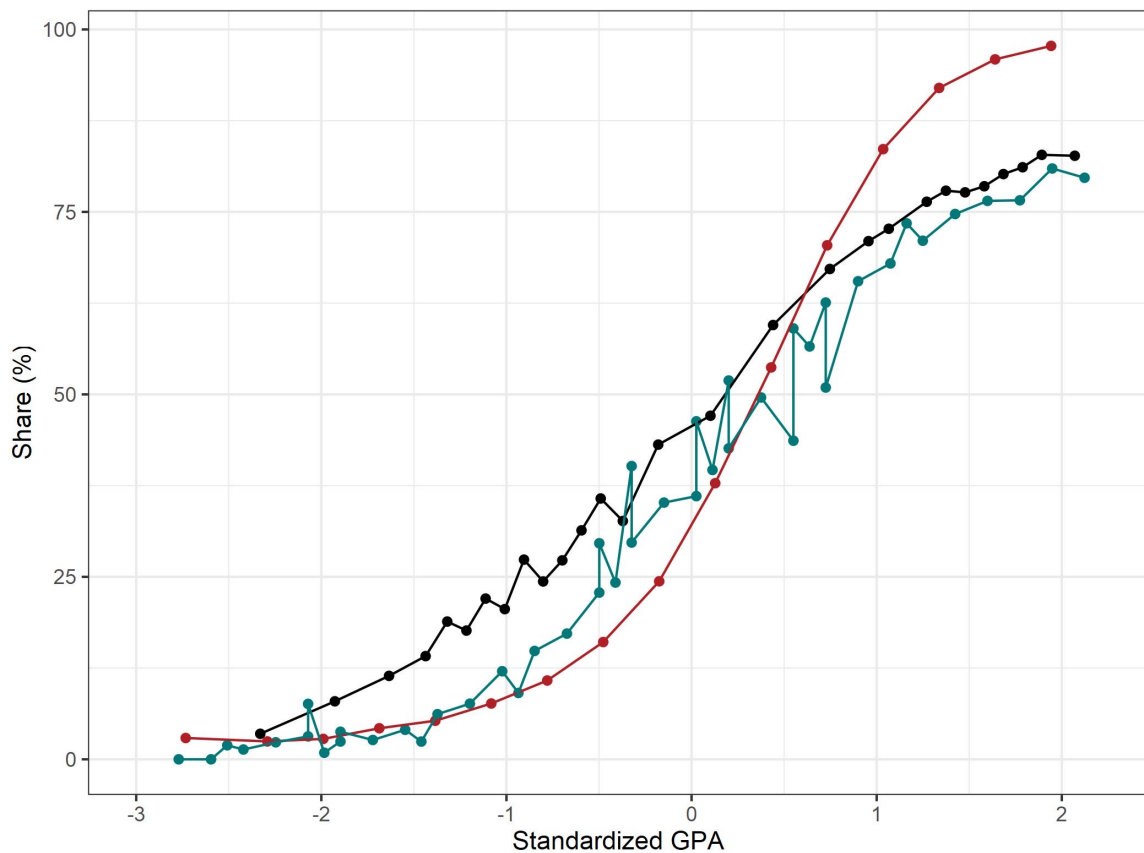


B) Earnings by SES in neighborhood

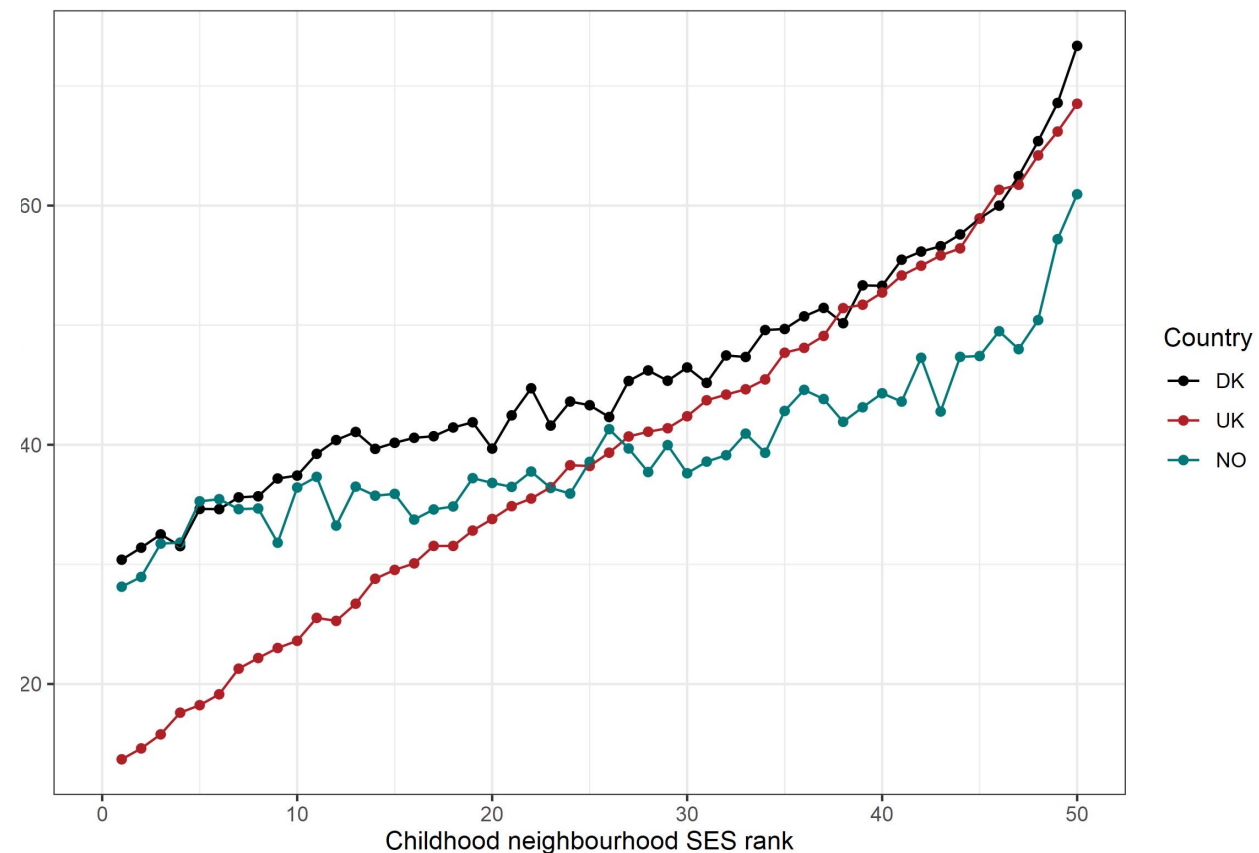


Entered college

A) P(college enrollment) by GPA

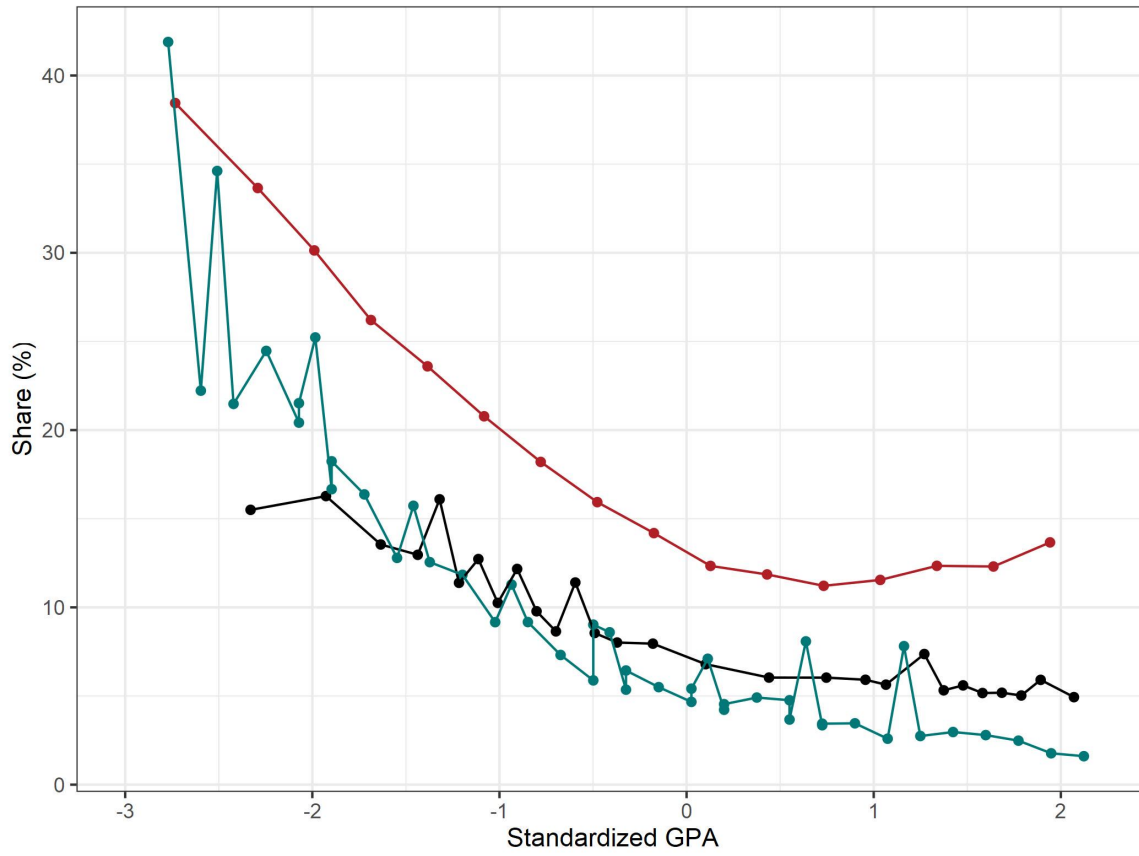


B) P(college enrollment) by SES in neighborhood

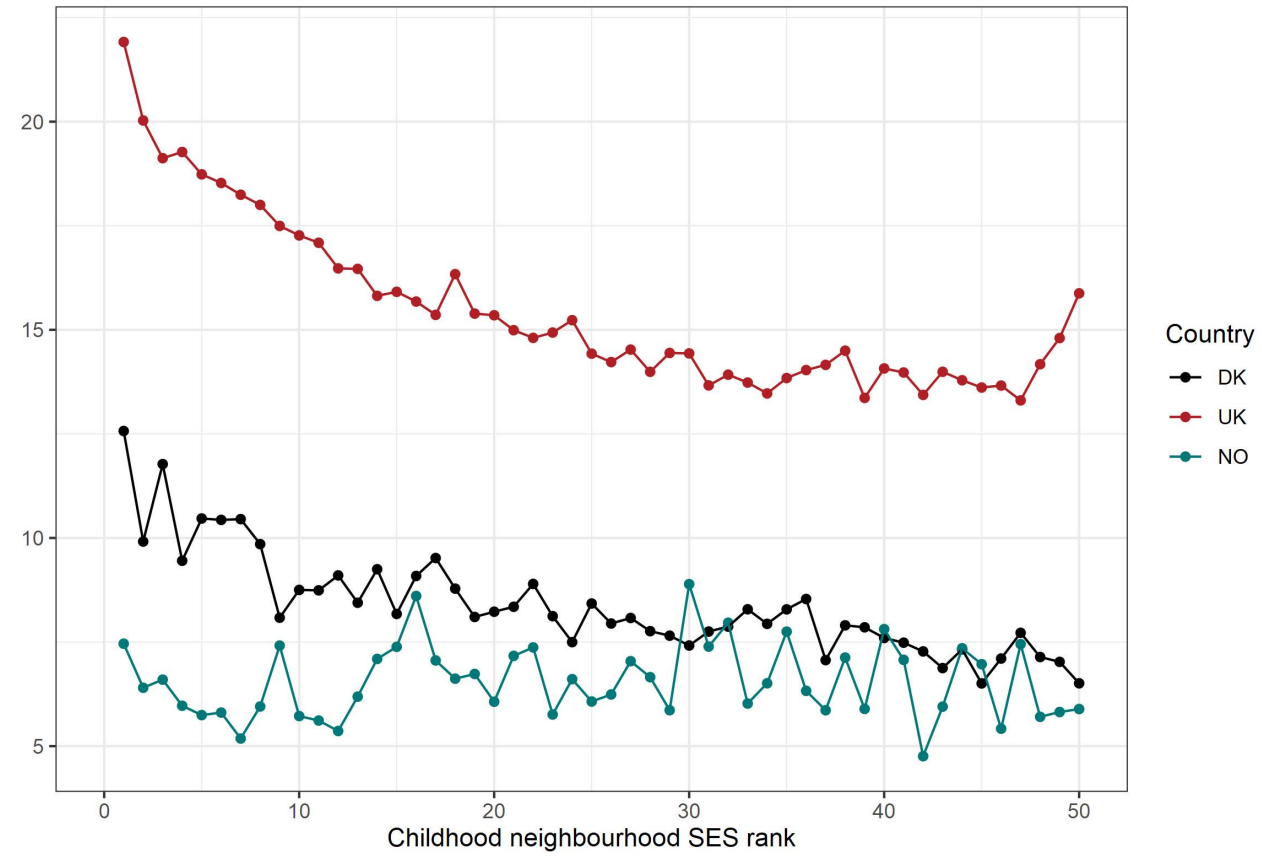


Not working

A) P(not working) by GPA



B) P(not working) by SES in neighborhood



Decomposition outline

By construction:

Regression coefficient of child outcome on neighborhood SES equals

Skill inequality * Primary Effects + Secondary Effects

where "Skill inequality" is the estimate from child GPA regressed on neighborhood SES

and "Primary Effects" and "Secondary Effects" are the estimates from child outcome regressed on child GPA and neighborhood SES, respectively.

Decomposition, Entered college

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.015	0.004	0.209	0.007
Norway	All	0.007	0.002	0.238	0.004
U.K.	All	0.021	0.005	0.244	0.010
Denmark	Low	0.014	0.002	0.208	0.005
Norway	Low	0.004	0.002	0.237	0.003
U.K.	Low	0.028	0.005	0.211	0.011
Denmark	High	0.022	0.006	0.208	0.010
Norway	High	0.014	0.003	0.238	0.007
U.K.	High	0.018	0.006	0.279	0.011

- Skill ineq.: All: UK>DK>NO for low SES: UK>DK>NO for high SES: DK>UK>NO
- Secondary: All: UK>DK>NO for low SES: UK>DK=NO for high SES: DK=UK>NO
- Primary: All: UK>NO>DK for low SES: NO>UK=DK for high SES: UK>NO>DK

Decomposition, earnings

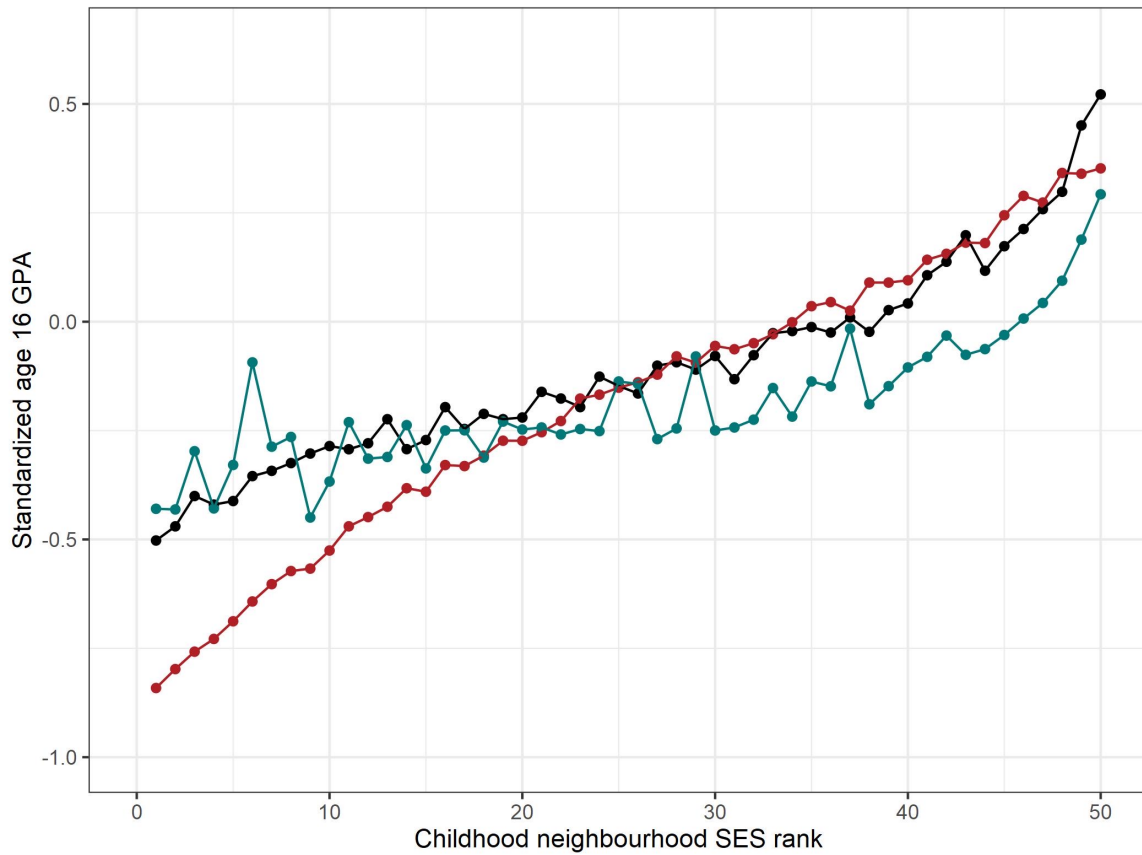
Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.015	0.062	5.671	0.146
Norway	All	0.007	0.025	7.961	0.084
U.K.	All	0.021	0.101	9.389	0.296
Denmark	Low	0.014	0.141	5.512	0.215
Norway	Low	0.004	-0.020	7.101	0.010
U.K.	Low	0.028	0.192	9.274	0.449
Denmark	High	0.022	0.025	5.827	0.150
Norway	High	0.014	0.071	8.837	0.193
U.K.	High	0.018	0.020	9.458	0.189

- Skill ineq.: All: UK>DK>NO for low SES: UK>DK>NO for high SES: DK>UK>NO
- Secondary: All: UK>DK>NO for low SES: DK>UK>NO for high SES NO>DK>UK
- Primary: All: UK>NO>DK for low SES: UK>NO>DK for high SES: UK=NO>DK

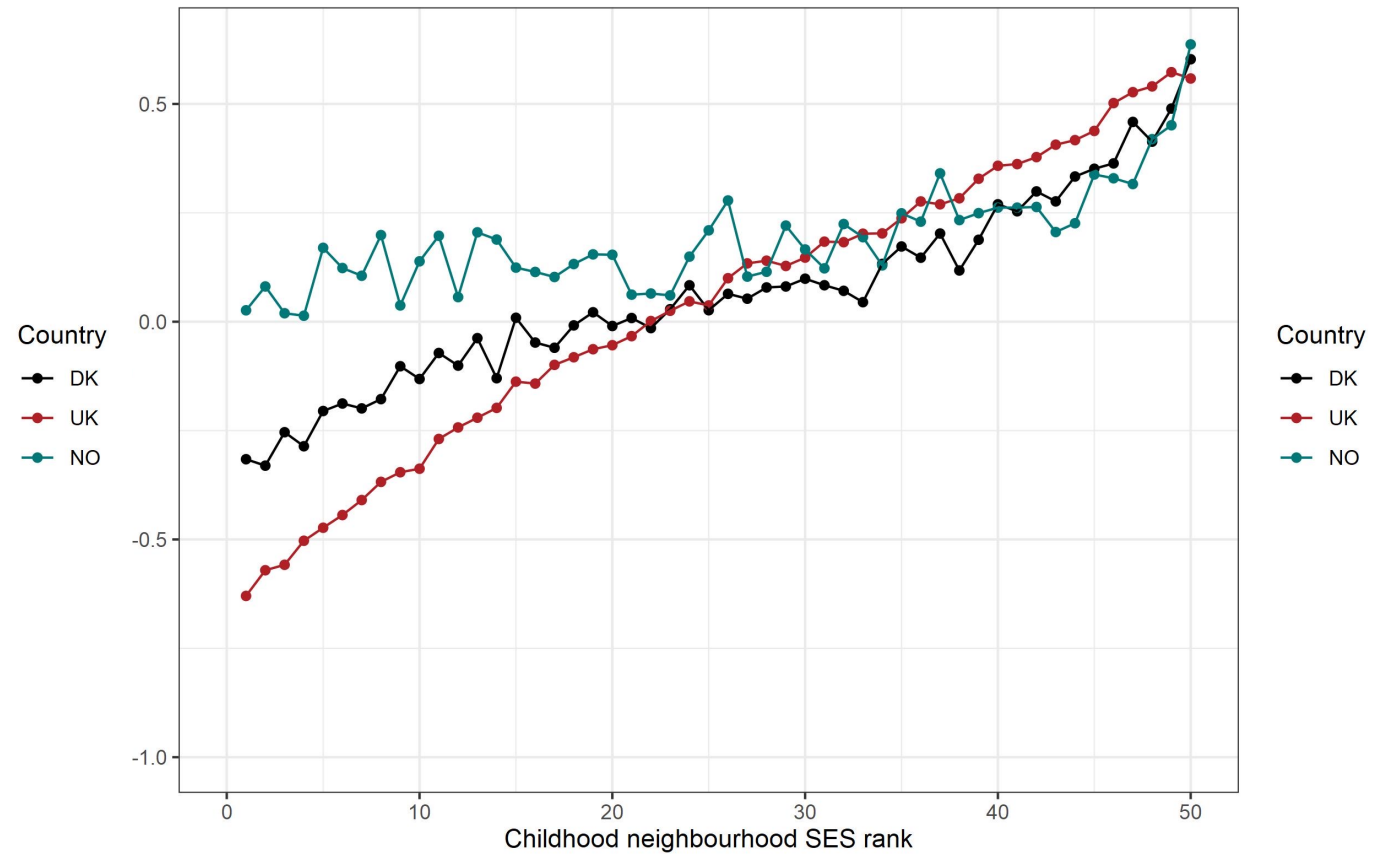
Results, by gender

GPA

A) GPA by SES, males

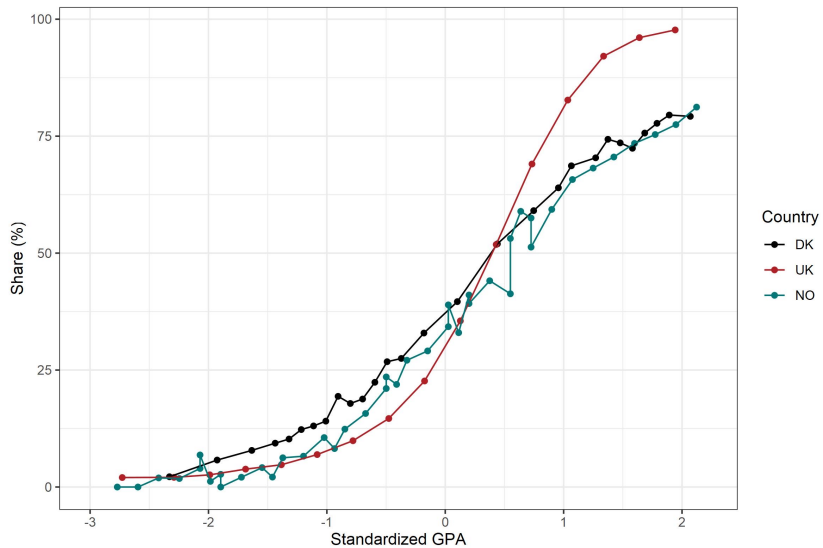


B) GPA by SES, females



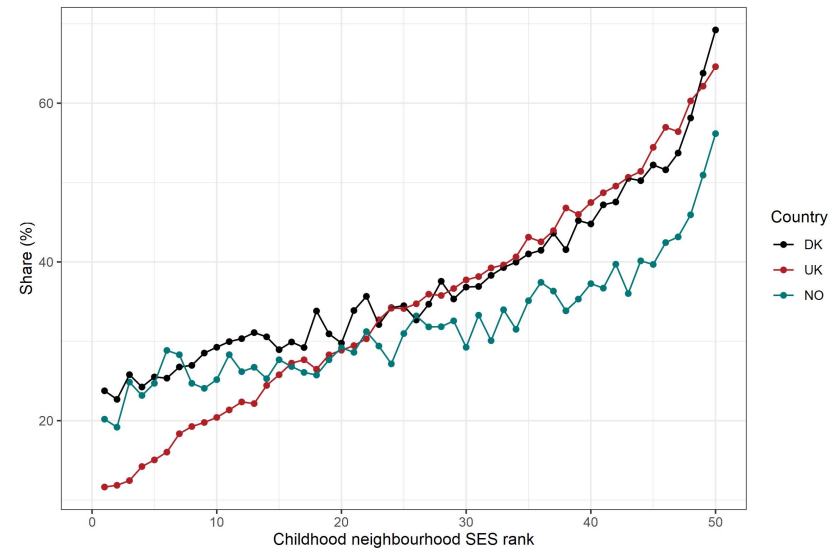
Entered college

P(college enrollment) by GPA

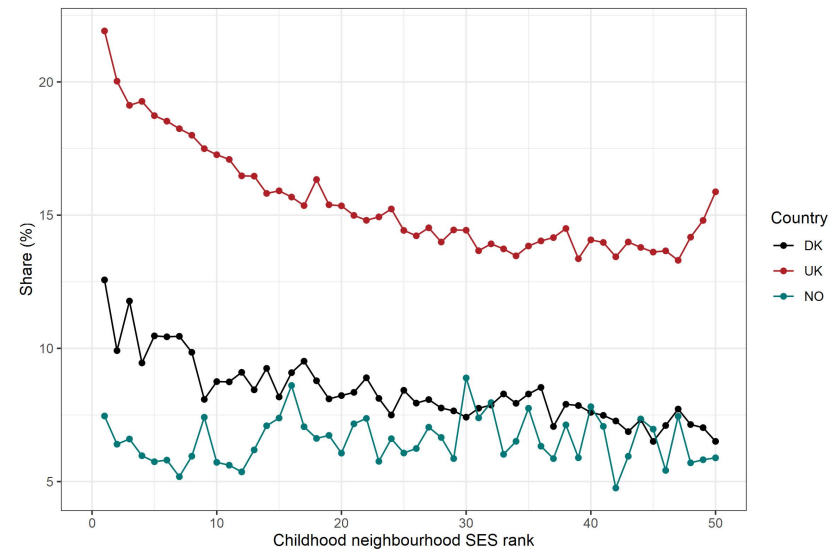
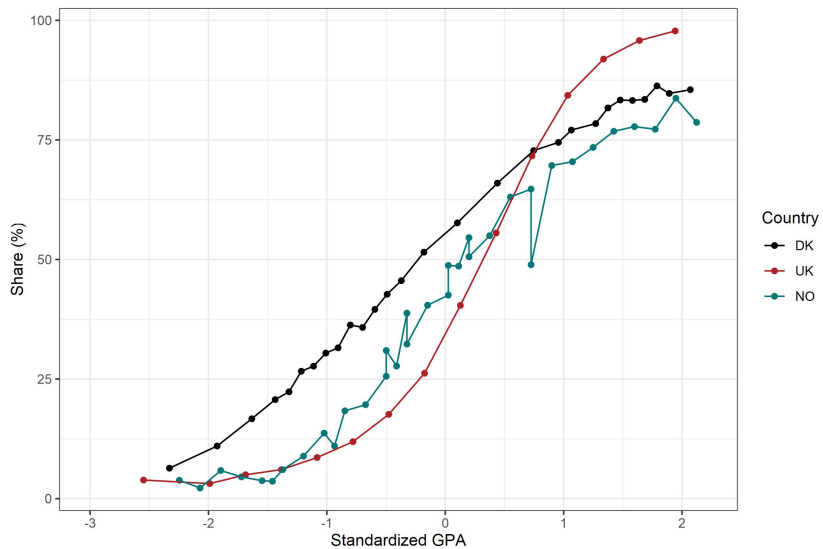


Males

P(college enrollment) by SES in neighborhood

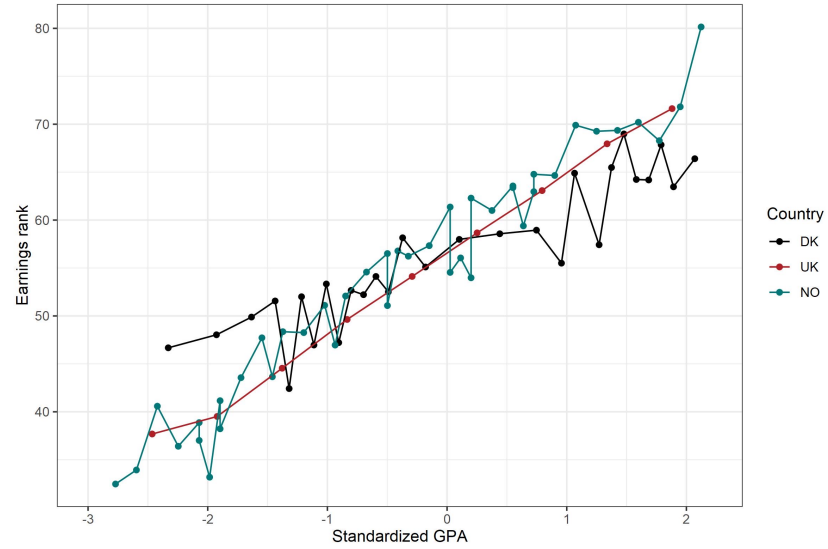


Females

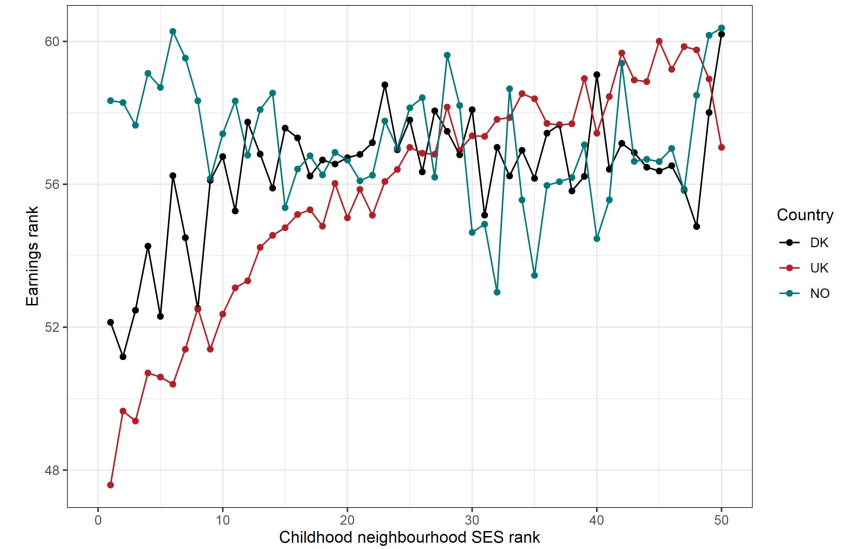


Earnings rank

Earnings by GPA

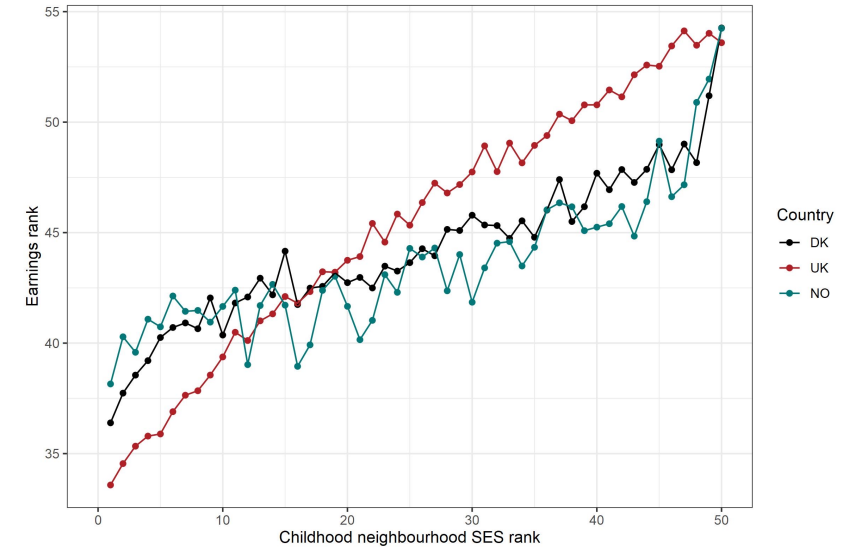
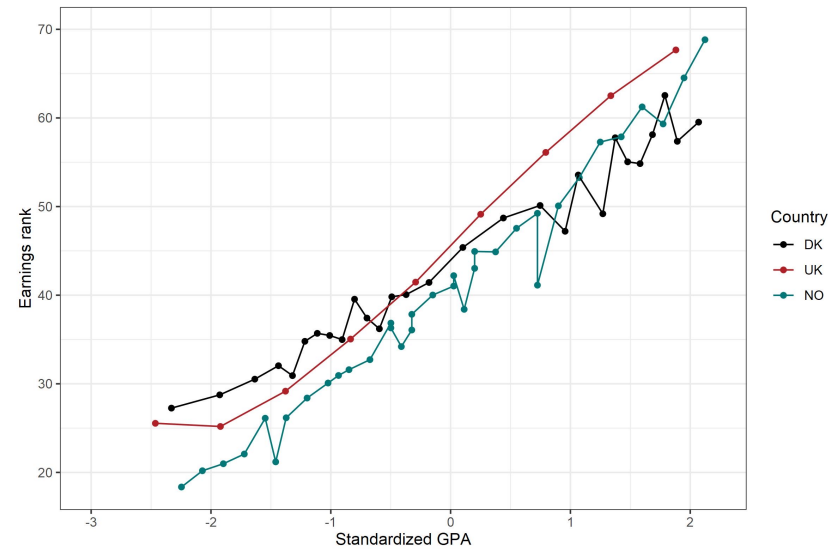


Earnings by SES in neighborhood



Males

Females



EARNINGS DECOMPOSITION

Males

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.015	-0.019	4.862	0.056
Norway	All	0.009	-0.100	8.351	-0.027
U.K.	All	0.020	0.032	8.207	0.199
Denmark	Low	0.013	0.153	4.682	0.214
Norway	Low	0.006	-0.138	7.585	-0.091
U.K.	Low	0.027	0.134	8.192	0.357
Denmark	High	0.023	-0.101	5.056	0.017
Norway	High	0.016	-0.069	9.116	0.074
U.K.	High	0.018	-0.059	8.169	0.085

Females

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.014	0.111	7.804	0.222
Norway	All	0.006	0.123	11.108	0.192
U.K.	All	0.021	0.163	10.844	0.395
Denmark	Low	0.015	0.091	7.913	0.206
Norway	Low	0.003	0.068	10.815	0.097
U.K.	Low	0.029	0.233	10.519	0.533
Denmark	High	0.020	0.123	7.704	0.278
Norway	High	0.012	0.188	11.384	0.324
U.K.	High	0.018	0.105	11.145	0.307

APPENDIX: Estimates by levels

Decomposition, Entered college

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.020	0.005	0.209	0.009
Norway	All	0.010	0.003	0.237	0.005
U.K.	All	0.029	0.007	0.254	0.014
Denmark	Low	0.039	0.006	0.209	0.015
Norway	Low	0.009	0.003	0.238	0.003
U.K.	Low	0.055	0.010	0.217	0.022
Denmark	High	0.016	0.004	0.208	0.008
Norway	High	0.012	0.003	0.236	0.006
U.K.	High	0.012	0.004	0.285	0.007

- Skill ineq.: All: UK>DK>NO for low SES: UK>DK>NO for high SES: DK>UK=NO
- Secondary: All: UK>DK>NO for low SES: UK>DK>NO for high SES DK=UK>NO
- Primary: All: UK>NO>DK for low SES: NO>UK=DK for high SES: UK>NO>DK

Decomposition, by below/above SES median

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.020	0.076	5.687	0.190
Norway	All	0.010	0.045	7.934	0.124
U.K.	All	0.029	0.105	9.490	0.380
Denmark	Low	0.039	0.423	5.506	0.639
Norway	Low	0.009	0.022	7.156	0.087
U.K.	Low	0.055	0.354	9.270	0.865
Denmark	High	0.016	0.038	5.791	0.133
Norway	High	0.012	0.097	9.048	0.204
U.K.	High	0.012	0.005	9.430	0.118

- Skill ineq.: All: UK>DK>NO for low SES: UK>DK>NO for high SES: DK>UK=NO
- Secondary: All: UK>DK>NO for low SES: DK>UK>NO for high SES NO>DK>UK
- Primary: All: UK>NO>DK for low SES: UK>NO>DK for high SES: UK=NO>DK

EARNINGS DECOMPOSITION

Males

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.021	-0.038	4.889	0.066
Norway	All	0.011	-0.100	8.335	-0.004
U.K.	All	0.028	0.013	8.220	0.245
Denmark	Low	0.037	0.454	4.677	0.625
Norway	Low	0.013	-0.180	7.646	-0.084
U.K.	Low	0.053	0.238	8.160	0.674
Denmark	High	0.018	-0.052	5.033	0.037
Norway	High	0.013	0.016	9.030	0.138
U.K.	High	0.012	-0.060	8.060	0.034

Females

Country	SES	Skill inequality	Secondary effect	Primary effect	Total effect
Denmark	All	0.019	0.152	7.808	0.302
Norway	All	0.009	0.158	11.071	0.252
U.K.	All	0.030	0.191	11.000	0.519
Denmark	Low	0.042	0.284	7.905	0.618
Norway	Low	0.006	0.162	10.792	0.231
U.K.	Low	0.057	0.436	10.600	1.040
Denmark	High	0.015	0.110	7.669	0.226
Norway	High	0.010	0.153	11.475	0.271
U.K.	High	0.012	0.072	11.200	0.208