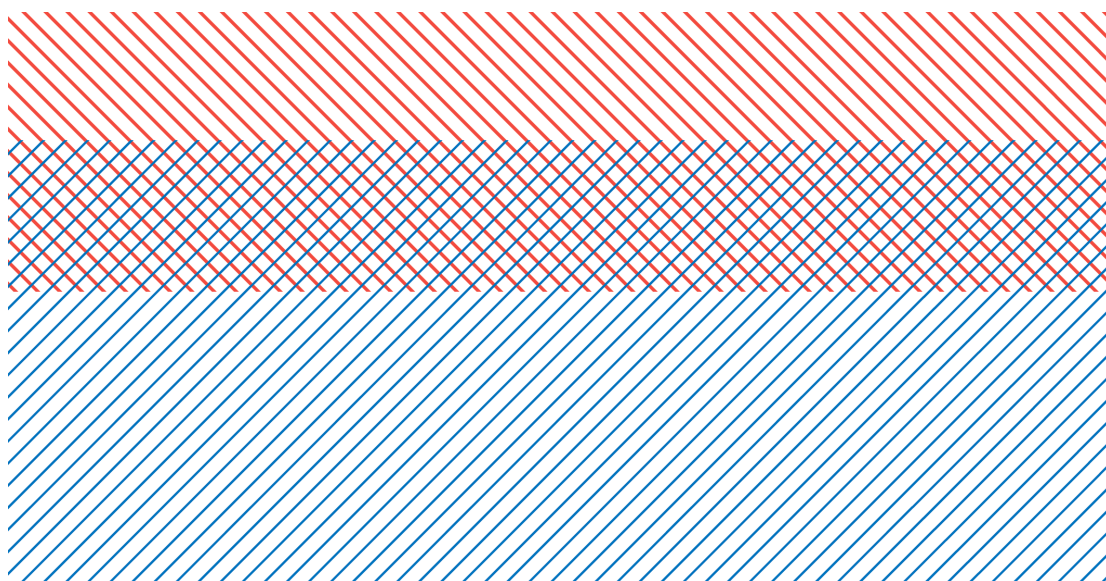


# Note on educational mobility in Denmark and the US

For cohorts born between 1957 and 1982



*Note on educational mobility in Denmark and the US – For cohorts born between 1957 and 1982*

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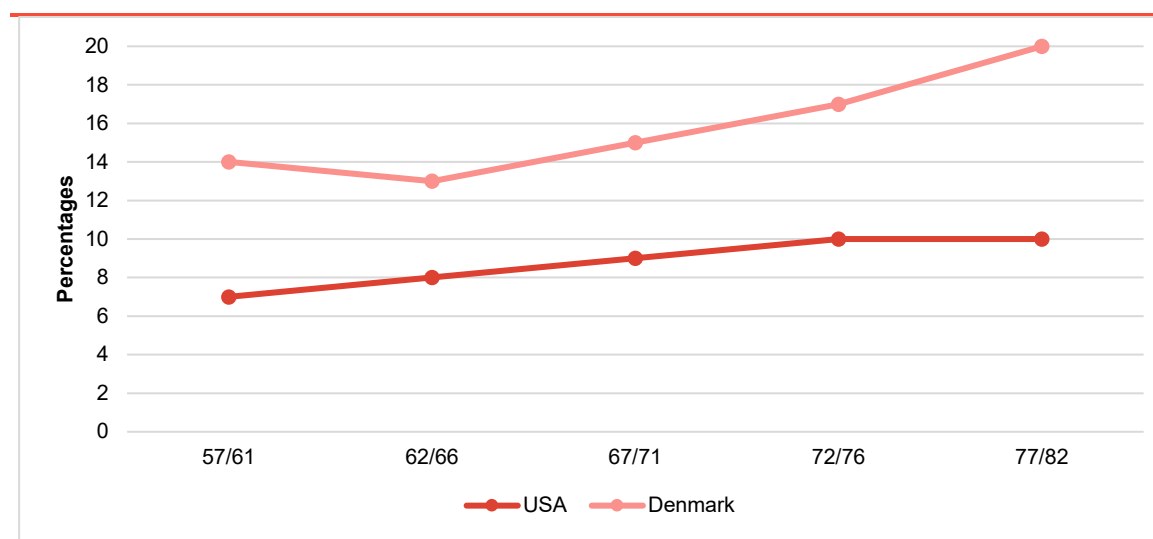
## Educational mobility

This brief compares educational mobility in Denmark and the US for cohorts born between 1957 and 1982. For Denmark, we use administrative population data, and for the US we use data from the General Social Survey (GSS). To measure educational mobility, we apply both continuous and categorical measures. We analyze data with conventional methods used by economists and sociologists. Educational attainment is measured with both categorical (education as degree) and gradational measures (education as years of schooling). For the categorical measures of educational mobility, we use simple descriptive statistics, including linear probability models and logistical regression (odds ratios). For the continuous measures, we use correlations (Pearson's R) and ordinary least square (OLS) regression (to capture the intergenerational elasticity). Across all measures and methods, we find that educational mobility is higher in Denmark than in the United States. Importantly, people from disadvantaged backgrounds are much more likely to achieve a bachelor's/graduate degree in Denmark than in the US. Across cohorts, our analyses also show that the continuous and categorical measures show different trends. While the continuous measures show that educational mobility is decreasing in both countries, the categorical measures show that the level of educational mobility has remained the same.

### Categorical measures

In Figures 1 and 2, we present the results of the association between parents' educational attainment and that of their children using categorical measures. Figure 1 shows the educational opportunities for children from homes where the parents have no upper-secondary education. We compare how likely these children are to obtain a bachelor's/graduate degree in Denmark and the US, respectively. Access to bachelor's/graduate degrees for disadvantaged people is better in Denmark than in the US. In Denmark, 20% of children from homes with no upper secondary education obtain a bachelor's/graduate degree in the latest cohort. This is twice the share of that in the US, where 9% of children from homes with no upper secondary education obtain a bachelor's/graduate degree. We find similar differences when looking at access to any higher education degree and when looking at access to graduate degrees only.

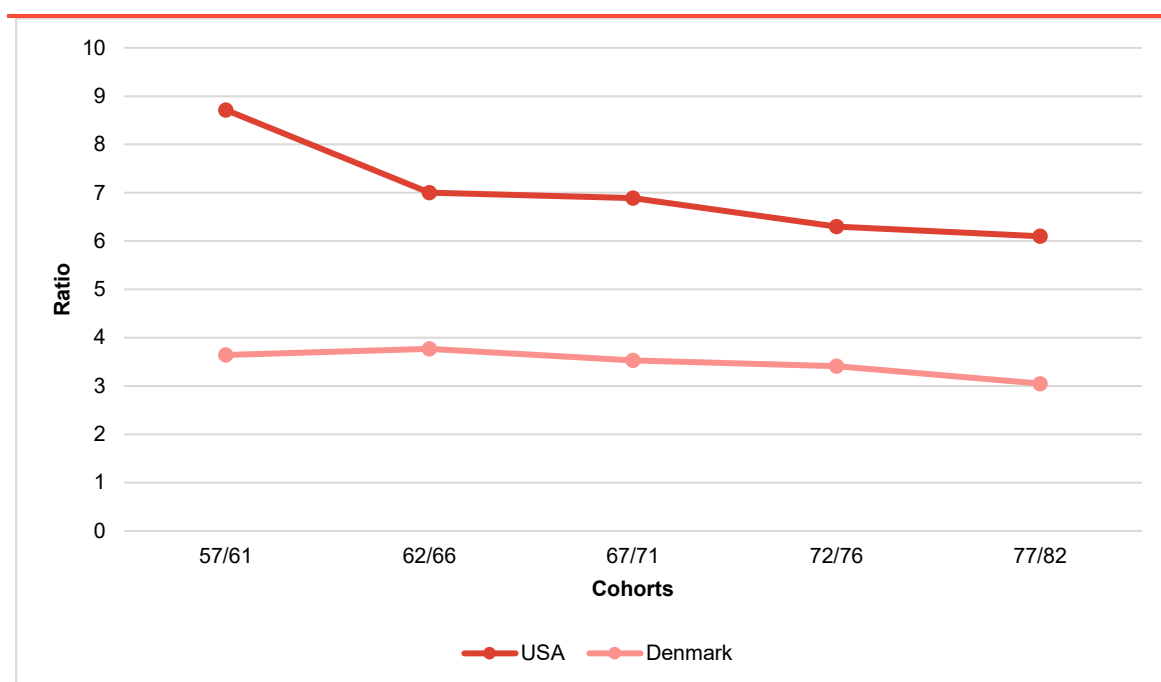
**Figure 1:** Bachelor's/graduate degree for children from homes with no upper-secondary education



Note: Data from the General Social Survey and Statistics Denmark.

In Figure 2, we compare upward educational mobility for children from different families. We investigate how much more likely children from homes with a bachelor's/graduate degree are to achieve the same degree themselves, compared to children from homes with no upper-secondary education (also known as a relative risk measure). Inequality in access to bachelor's/graduate degrees is greater in the US than in Denmark. In the US, the relative risk has decreased from a ratio of 8.7 to 6.7, while inequality in Denmark has decreased from a ratio of 3.6 to 3.1. In other words, in the latest cohorts Danish children from homes with a bachelor's/graduate degree are three times more likely to achieve a bachelor's/graduate degree than children from homes with no upper-secondary education, but US children from homes with a bachelor's/graduate degree are seven times more likely to do the same.

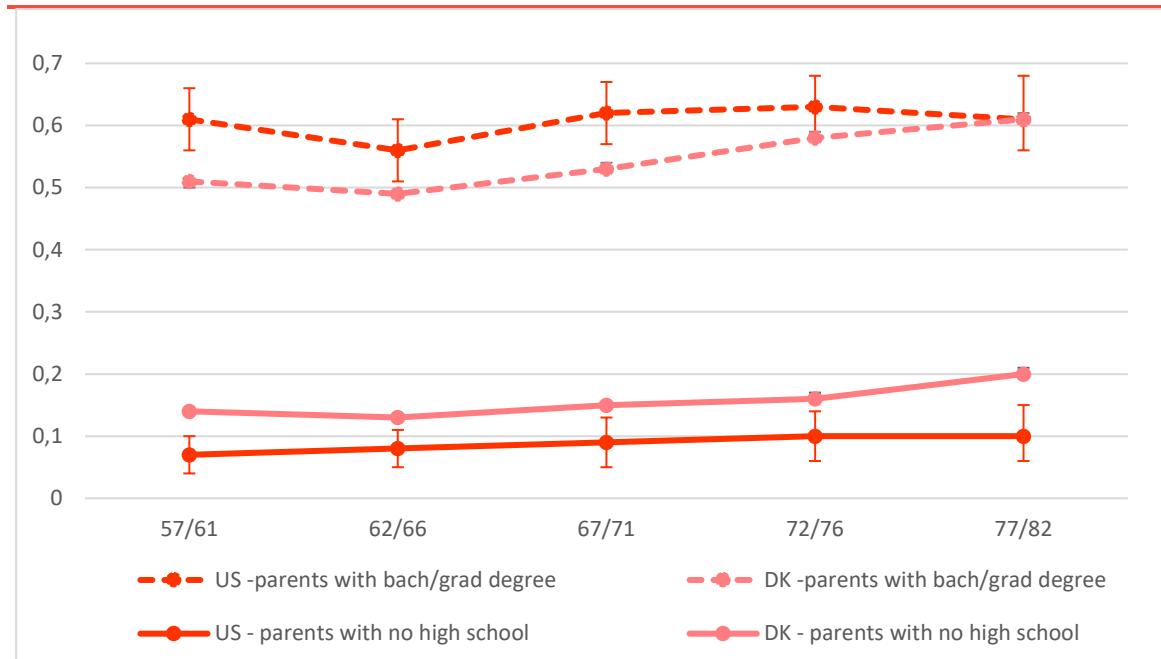
**Figure 2** Bachelor's/graduate degree for children from bachelor's or graduate degree homes relative to children from homes with no upper-secondary education



Note: Data from the General Social Survey and Statistics Denmark.

Figures 3 and 4 present results from an OLS regression models using the same categorical measures of educational mobility as in Figure 1. Using a linear probability model (separate models for each cohort), Figure 3 shows the probability of obtaining at least a bachelor's degree for children from homes with at least a bachelor's degree relative to children from homes with no upper-secondary education. The figure presents the same data as in Figure 1, only with confidence intervals. We find that the educational upward mobility is significantly lower in the US than in Denmark: Across the cohorts, the probability of obtaining at least a bachelor's degree is about the same for children of parents with at least a bachelor's degree in the US and Denmark. However, Danish children from homes with no upper-secondary education are twice as likely as US children to obtain at least a bachelor's degree.

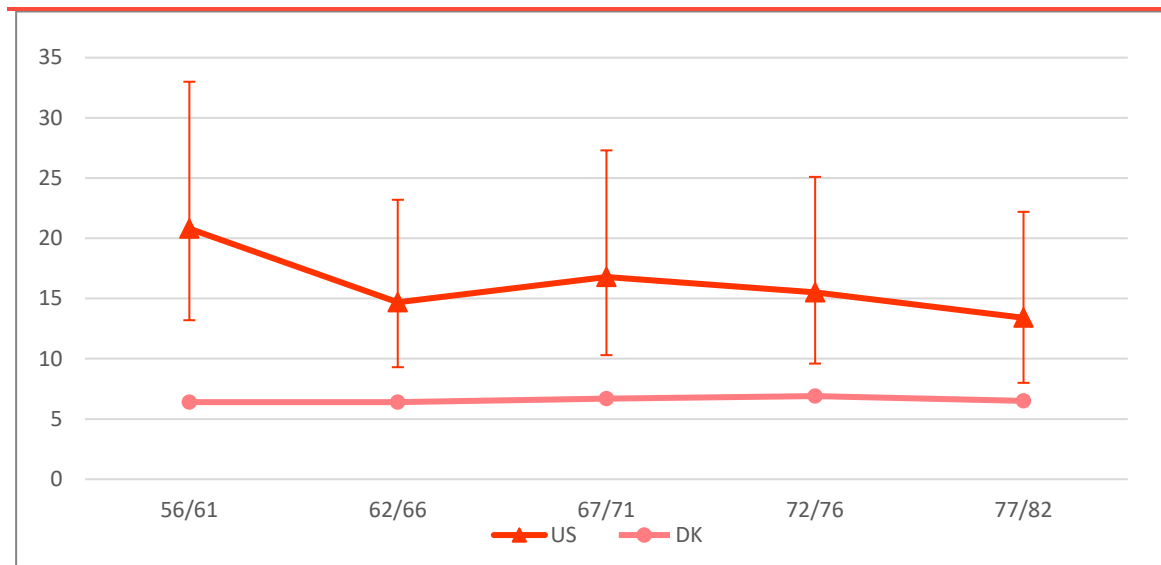
**Figure 3:** Probability of obtaining at least a bachelor's degree (linear probability model)



Note: Data from the General Social Survey and Statistics Denmark

In Figure 4, we use the same categorical measure as in Figure 3, but use logistical regression models (estimated separately for each cohort). We present the model coefficients in odds ratios, i.e. the odds of obtaining at least a bachelor's degree vs. not obtaining a bachelor's degree for people from homes with at least a bachelor's degree relative to the same odds for people from homes with no upper secondary education. Again, we reach the same conclusion, educational mobility is lower in US than in Denmark, with US odds ratios hovering around 15 across the period, compared with odds ratios of about 6-7 in Denmark.

**Figure 4** Bachelor's/graduate degree vs. no degree (odds ratios)

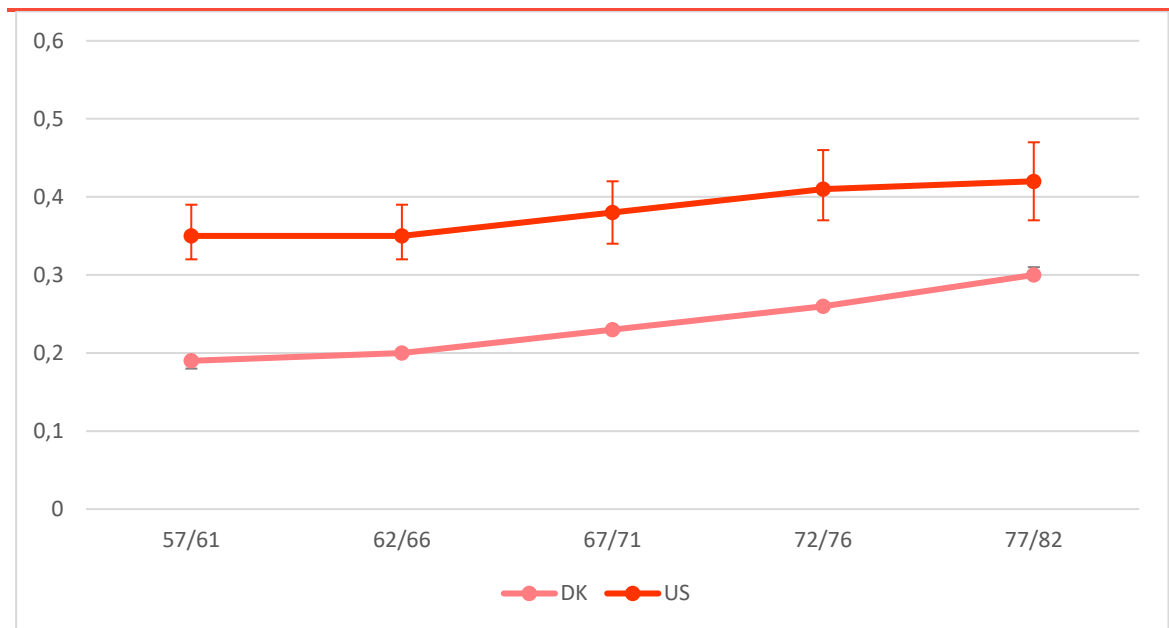


Note: Data from the General Social Survey and Statistics Denmark.

## Continuous measures

In Figures 5 and 6, we display educational mobility with continuous measures (years of education). In Figure 5, we present the results using the intergenerational elasticity measure (IGE; beta-coefficients from separate OLS models for each country and cohort). The figure shows that both countries have become less educationally mobile over time as the effect of parents' education has increased in both countries (the child-parent links become less elastic).

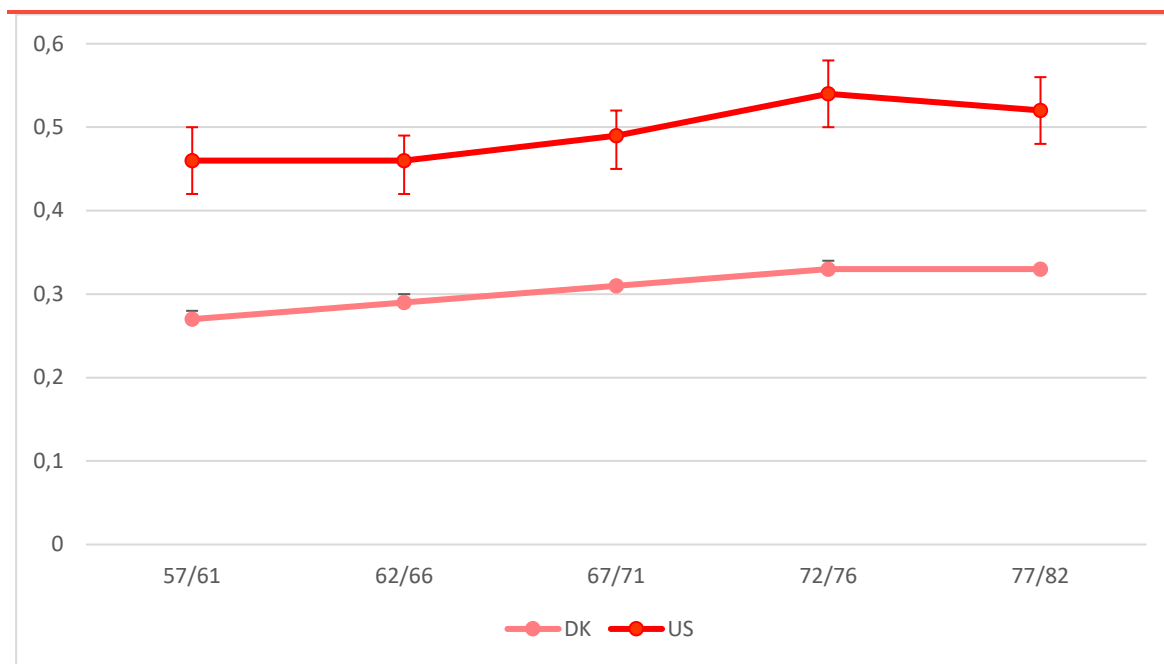
**Figure 5** Intergenerational elasticity (years of schooling)



Note: Data from the General Social Survey and Statistics Denmark.

However, across the cohorts, the level of educational upward mobility is lower in the US than in Denmark. In Figure 6, we plot the child-parent correlations for each cohort in both Denmark and the US. The figure shows a similar pattern to the one shown in Figure 5: The level of educational upward mobility is lower for the more recent cohorts (the ones born in the late 1970s and early 1980s) than for the older cohorts (born in the late 1950s and 1960s). However, as shown in Figure 5, the level of upward mobility is still much higher in Denmark than in the US.

**Figure 6** Correlations (years of schooling)



Note: Data from the General Social Survey and Statistics Denmark.

## Data

To measure educational attainment categorically, we have used information on the highest degree achieved and years of education as the continuous measure. For Denmark, we have used administrative population data on all 35-year-olds born between 1957 and 1982. We measure the highest education achieved at age 35, and we retrieve information on parents' education at child's age 35. For the US, we use cumulative data from the GSS for all 30 to 40-year-old respondents born between 1957 and 1982 (age censoring in younger cohorts, e.g. only 30 to 36-year-olds in 1982). We use information from the parent with the highest degree or the highest years of education. For years of education in Denmark, we use a variable that measures the stipulated time needed to achieve any given type of education, we deduct a year (adjusting for a grade zero in Denmark), and we round to zero decimals to make Danish and US data comparable.

Measuring parents' educational status when the "child" is 35 is a pragmatic choice. Ideally, we would measure parents' education earlier (e.g. at child's age 10 or 15). However, as the Danish administrative registries only go as far back as the 1980s, measuring parents' education earlier would limit the data window to include only the 1971 cohort onwards. In any case, Table 1 shows that parents' education in Denmark are distributed evenly when the child is 15 years old compared to when the child is 35 years old. Additional checks reveal that 3% of all parents change educational status from child's age 15 to 35. Further analyses reveal that all model results are robust to differential mortality rates.

**Table 1:** Parental education when children born in 1975 are 15 and 35 years old

	Parents' education measured when the child is 15 years old	Parents' education measured when the child is 35 years old
Elementary school	20.3	20.6
High school	1.1	1.1
Vocational	46.3	45.8
Short	4.0	4.0
College	21.0	20.9
University	7.4	7.5
N	68,213	67,002

Note: Data from Statistics Denmark.