# Family background and educational attainment

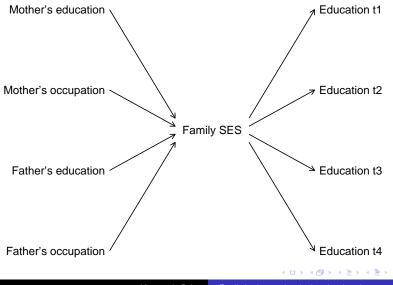
## Are there many inequalities of educational outcome or just one?

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#### The idea



- 1. Is educational attainment influenced by:
  - the education or the occupation of the parent,

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- 2. Are the roles of the father's and mother's education and occupation constant or have they changed over time?

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  - any combination of these?
- 2. Are the roles of the father's and mother's education and occupation constant or have they changed over time?
- 3. Has the effect of family background on respondent's education changed over time?

#### Data

- International Stratification and Mobility File (ISMF) on the Netherlands.
- 11 surveys held between 1992 and 2006 with information on cohorts that where 12 in 1939-1991.
- 11,500 respondents aged between 24 and 65 have complete information on child's, father's and mother's education and father's and mother's occupation.
- Number of cases are unequally distributed over cohorts.

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$$ed = \beta_0 + \beta_2 coh + (\lambda_0 + \lambda_1 coh) * ses + \varepsilon$$
  
ses =  $\gamma_0 + \gamma_1 med + \gamma_2 fed$ 

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- The alternative model is:

 $\textit{ed} = \alpha_{0} + \alpha_{2}\textit{coh} + \alpha_{3}\textit{med} + \alpha_{4}\textit{med} * \textit{coh} + \alpha_{5}\textit{fed} + \alpha_{6}\textit{fed} * \textit{coh} + \varepsilon$ 

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Both models are estimated and compared using the propenseg package in Stata.

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#### Family background

*ed* = *coh*+*fem*+*coh*\**fem*+(*coh*+*fem*+*coh*\**fem*)\**par\_ses* 

par\_ses = fed + med +
fed \* hi\_fed + med \* hi\_med +
fed \* male + med \* female
med \* homemaker +
foc + moc +
foc \* hi\_foc + moc \* hi\_moc
foc \* male + moc \* female + homemaker \* female +
homemaker + homemaker \* foc

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 fed \* male + med \* female +
 med \* homemaker +
 foc + moc+
 foc \* hi\_foc + moc \* hi\_moc+
 foc \* male + moc \* female + homemaker \* female+
 homemaker + homemaker \* foc

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fed \* hi\_fed + med \* hi\_med+
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foc + moc +
foc \* hi\_foc + moc \* hi\_moc +
foc \* male + moc \* female + homemaker \* female +
homemaker + homemaker \* foc

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#### A single latent variable

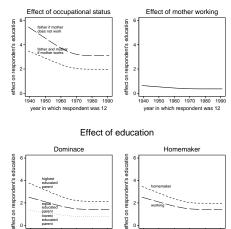
The hypothesis that the contributions of each background variable to the latent variable has not changed over time cannot be rejected:  $\chi^2(65) = 51.56$ , p = 0.866

#### Constraints on the effects of the parents (Wald tests)

Null hypothesis	occupation			education		
	$\chi^2$	df	р	$\chi^2$	df	р
father = mother	1.63	1	0.202	0.74	1	0.390
highest = same = lowest	0.05	2	0.977	19.58	2	0.000
same sex = different sex	4.47	2	0.107	0.07	1	0.785
compensation homemaker = 0	6.41	1	0.011	4.91	1	0.027
homemaker = 0	10.00	1	0.002			

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#### Indirect effects of family background on education



#### Effect of occupation

1950 1960 1970 1980 year in which respondent was 12 equal educated parent

1940

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1960 1970 1980 1990

year in which respondent was 12

1940 1950

mother works

Family background and educational attainment

1990

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- It makes no difference whether or not the parent has the same sex as the offspring.

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- Being the highest, same, or lowest parent matters for parental education but not for parental occupation.

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- The effect of father's occupation/education is the same as the effect of mother's education/occupation.
- It makes no difference whether or not the parent has the same sex as the offspring.
- Being the highest, same, or lowest parent matters for parental education but not for parental occupation.
- The offspring of mother's who have not worked do worse than the offspring of mother's with the lowest status occupation.