

MA mini-Course

# Multiple Indicator Measurement

(with special reference to education and occupation)

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Lecture 5b: Status Attainment and  
Social Reproduction

# Social Mobility and Social Reproduction

- Social mobility and social reproduction opposite sides of the same thing.
  - Other term used: social fluidity, openness.
  - Two main varieties:
    - *Inter-generational* (between parents and offspring)
    - *Intra-generational*: between early and later life course (career).
  - Two aspects of each:
    - Upward / downward moves.
    - Association between origin and destination.
- These two aspects do not have to go together and can have different causes (and consequences).

# Upward and Downward Mobility

- Most people think about social mobility as upward or downward moves.
- This assumes that mobility takes place on a single ladder / levels (which is OK for education and occupation).
- It is important to see that upward and downward moves are better described in terms of *attainment* (expected level), which can be related to origin level, but also to other background characteristics.
- The part that is associated with origin is then referred to as social mobility / reproduction proper.
- Note that there can be upward and downward moves with perfect reproduction

# Blau & Duncan (1967)

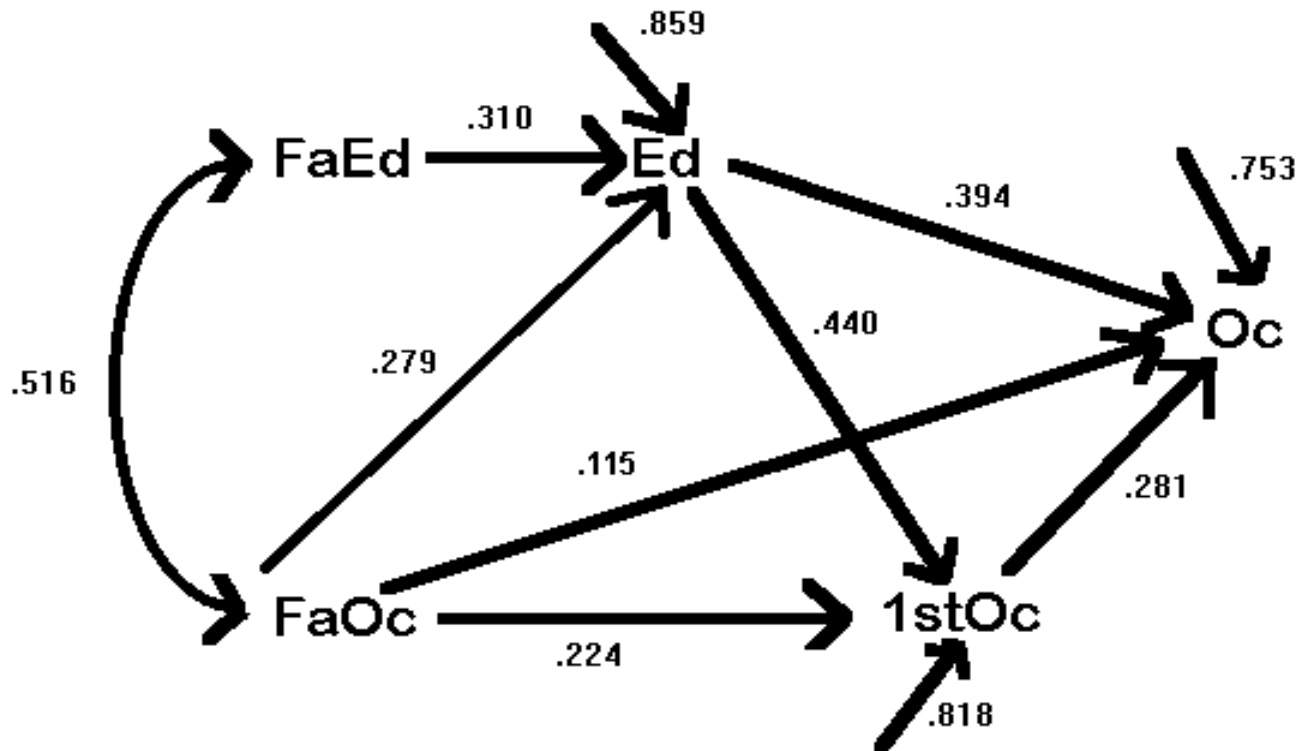
- In 1967 B&D revolutionized research in social stratification (and sociology in general) by the introduction of a “causal” model for the “process of stratification”.
- The model decomposed bi-variate correlations among causally ordered variables into partial (causal) effects.

# Simple correlations USA 1962

**B&D Table1: Simple Correlations for Five Status Variables**

	FaEd	FaOc	Ed	1stOc	Occ
FaEd	1.000				
FaOc	0.516	1.000			
Ed	0.453	0.438	1.000		
1stOc	0.332	0.417	0.538	1.000	
Occ	0.322	0.405	0.596	0.541	1.000

# BD Status attainment model (1967)



# Conclusions from the BD model

## comparisons of causal influences

- Father's occupation and father's education are about equally important for determining educational outcomes.
- Father's occupation contributes to occupational status attainment at entry into the labor market and also after entry into the labor market (father's education does not).
- Respondent's education is about (only!) twice as important for entry status as father's occupation.
- Respondent's education is about three times as important for final status as father's occupation.

## More conclusions: **indirect effects**

- About half of the total social reproduction at labor market entry is explained by selective processes in education, the other half is direct (unexplained).
- Social reproduction in current occupation is slightly stronger than at career's beginning and a larger share is explained by selective processes in education.



# Additional methodological contributions by B&D

- Measuring all variables at an interval scale (necessary for calculating correlation and regression).
- Large scale survey (OCG: Occupational Change in a Generation).
- First job: (A) makes it possible to look at career dynamics, (B) allows for cohort comparisons to assess historical change.

# Theoretical contribution

- Modernization theory (from ascription to achievement): “As societies modernize, education becomes more important and father’s occupation becomes less important for occupational attainment.”
- It is tested by Table 5.4 or correlations in Table 5.3): is it confirmed or not?

# Possible extensions (1)

- B&D is about men in the US 1962:
  - How about women?
  - How about other countries?
  - How about more other periods and social change?
- B&D is about mobility relative to fathers:
  - How about the influence of mothers and other family members?
  - Different for women, other countries, social change?
- B&D is about completed education and first / last occupations:
  - How about educational careers?
  - How about occupational careers?

# Possible extensions (2)

- B&D use single indicator continuous measurements:
  - How about measurement error and its influence on the estimated parameters? What would we see when we use multiple measurement?
  - How about measuring and modelling in discrete categories (levels of educations, social classes)?
- Altogether these questions constitute the programme of (comparative) stratification research?

# Social Mobility and Status Attainment in Suriname

- Project directed and executed by Tamira Sno.
- Target: full probability sample of Suriname (N=4000).
- B&D is very much the inspiration. But with the following extension:
  - Mothers (and origin family structure) are included.
  - Full coverage of respondent and sibling (by proxy).
  - Double indicator measurement of education and occupation.
- Obvious topics for Suriname are covered: ethnic differentiation, incomplete families, international migration.

# Double measurement of education

- It is not so easy to think of two independent indicators of level of education. But useful are:
  - Highest obtained degree (this assumes a single hierarchy of diploma's).
  - Duration of education: how long have you been educated?
  - Cf. Lecture 3.
- We have measured these two indicators for respondents and their sibling (but not the parents).

# Double measurement of occupation

- Two indicators are:
  - Pre-coded categories
  - Post-coded (open) answers
- Both can be expressed in the same metric: the International Socio-Economic Index [ISEI] of occupational status.
- For the open answers we need you help...

# Occupations in SuriMob2011

- Occupations are measured for:
  - Father, mother, resp (1<sup>st</sup> & most recent), sibling (1<sup>st</sup> & most recent)
- Altogether almost 12.000 occupations to be coded.
- Some 5000 have been automatically coded – however these codes can be wrong and need to be checked.
- Each of you received 2000 occupation to code – every occupation is coded by two persons.



# Measurement of occupations

- Two stages:
  - Classification into a coding system
    - Occupations are different from other variables because they are measured via open questions and post-coded.
  - Express the coded occupation into a sociological relevant occupational status measure.
- Note that these are two steps!! We do not scale the open answers immediately into a status score.

# ISCO

- ISCO: International Standard Classification of Occupations, maintained by ILO.
- Four versions: ISCO-58, ISCO-68, ISCO-88, ISCO-08. We use ISCO-88.
- All materials (in English) can be found on the ILO website: (search for ILO ISCO).
- Some 500 alternatives to choose from.

# Occupational status

- Occupational prestige: what do members of society think of an occupation? What is high, what is low?
- Social distance: how do different occupation related in terms of acceptance in marriage, friendship, intergenerational mobility?
- Socio-economic index: how are occupations related to resources and rewards, i.c. education and earnings?
- Social class: how are occupations different / similar with respect to work and labor market conditions (ownership, manual-non-manual, authority).

# Comparative measures

- SIOPS (Treiman, 1977): Standard International Occupational Prestige Scale.
- ISEI (Ganzeboom et al., 1992, 1996): International Socio-Economic Index of occupational status.
- CAMSIS / ICAM Cambridge Social Interaction Scale.
- EGP (Erikson, Goldthorpe, Portocarero, 1979) . ESEC / ISEC: Socio-Economic Classes
- All these measures can be recoded from ISCO-coded occupations.

# Outline of ISCO-88

- ISCO has about 580 groups to code occupations.
- These groups are organized in four levels of aggregation by a hierarchical digit system.
- ISCO-88 has a 600 page manual (on the ILO website).
- The Introduction to the ISCO-88 manual (not on the ILO website) is a useful piece to read.
- ISCO-88 is skill-oriented, but it does not really show.

# Major groups

- 1000 Managers
- 2000 Professionals
- 3000 Associate Professionals
- 4000 Clerical Workers
- 5000 Sales and Service Workers
- 6000 Skilled Agricultural Workers
- 7000 Craft Workers
- 8000 Machine Operators
- 9000 Elementary Occupation
- 0100 Military, all ranks

# The hierarchical digit system

- 1000 Legislators, Senior Officials and Managers
  - 1100 Legislators and Senior Officials
    - 1110 Legislators
    - 1120 Senior Government Officials
    - 1140 Senior Official, Special Interest Orgs.
      - 1141 Political Party Officials
      - 1142 Economic Interest Org Officials

# The devil is not in the detail

- Major groups
  - Sub-major groups
    - Minor groups
      - Unit groups
- Major groups are far more important than more detailed groups.
- Coders should really have the major and sub-major groups in their heads.
- However, adding the last two digits is not so much work, when you do it right.



# Major problems in ISCO-88

- Where to code farmers?
- How to code managers and supervisors?
- What is the difference between 7000 and 8000?
- How to code crude occupations like “skilled worker”?

# Basics of occupation coding

- Step 1: only code the first two digits (with trailing zeroes).
  - Starts with alphabetic list. Do NOT consult the classification / website at this point; first look for similarities with existing codes.
  - Check your work after sorting by code.
- Step 2: fill in the trailing zeroes.
  - At this point you will have to use the documentation.
  - Keep sorting and checking.