Number of descendants and their educational outcomes -
A prospective analysis of multigenerational demographic stratification in Northern Sweden in the 19th, 20th and 21st centuries.

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“Who have many children” used to be among the most central questions in early science, and was very central for pioneers of statistics, social science, and biology.
Background

- This study examines two different questions:
  - Who has many children, grandchildren, and great grandchildren?
  - What determines the (educational) success of these descendants?

Examining a population of predominantly farmers in 19th century Northern Sweden and their descendants in the 20th and 21st century.
This approach combines demographic differences between groups, socioeconomic stratification, and the interplay between demography and socioeconomic stratification.

As the study spans from 1860-2007 the demographic and socioeconomic context has also changed dramatically.
A key contribution of this study is that we pay particular focus to historical calendar time.
Industrial revolution in Sweden = agricultural employment from 70% to 30% of labor force

Fertility transition in Sweden = TMFR from 8 to 3

Great depression

Post-war economic boom
In the context of rapid change: Maybe **when** your descendants are born is more important than **who** they are (their relative socioeconomic characteristics)?
Box plot of birth year for G1, G2, G3 & G4.
Source of data

- Data from the demographic data base at Umeå University in northern Sweden

- Around 150 000 people between 1720-1950 who spent some of their time in Skellefteå. Around 50 000 can be followed for their entire life.

In 1960 historical data is linked with the full population of Sweden from administrative registers.
Skellefteå region
Skellefteå region

Predominantly agricultural until the end of the 19th century

High share of farmers with ownership of their own land

Some sawmill industry towards the end of the 19th century

Early 20th century industrialization, important mining and metallurgical industry
A = number of + in G4 (N)
B = number of in G4 (N)
C = ratio of / ( + ) in G4 (%)
Education (at least 2 years of tertiary education)
Preliminary results
Number of great grandchildren

Number of index persons

0 to 4
5 to 9
10 to 14
15 to 19
20 to 24
25 to 29
30 to 39
40 to 59
60+

10+
9
8
7
6
5
4
3
2
1

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Number of great grandchildren

Fertility of index persons
Fertility effects on outcomes

Model 1  Model 2  Model 3

Number of great grandchildren  Number of great grandchildren  Number of great grandchildren

Number of tertiary educated  Number of tertiary educated  Number of tertiary educated

Model 1  Model 2  Model 3

Share of university educated  Share of university educated  Share of university educated

Number of great grandchildren

Model 1  Model 2  Model 3

Number of great grandchildren

Model 1  Model 2  Model 3

Number of tertiary educated

Model 1  Model 2  Model 3

Share of university educated
Timing of fertility effects on outcomes

median years between g1 and g4

Number of great grandchildren
Number of tertiary educated
Share of university educated
Occupation in G1 effects on outcomes

Number of great grandchildren

- Occupation in G1 effects on outcomes
  - No controls for childbearing
  - Controls for childbearing

Number of tertiary educated great grandchildren

- Share of tertiary educated great grandchildren
  - No controls for childbearing
  - Controls for childbearing
Summary

Fertility quantum (number of children) unsurprisingly highly associated with a large number of descendants.

Strong effects of timing of fertility on both fertility and educational outcomes.

Moderate effects of G1 occupation on both fertility and educational outcomes.
Conclusions
Summary

Temporal context very important for both socioeconomic outcomes and fertility outcomes.

For example, big variance in fertility over time (some of this variance covaries with observable measures such as status, but most doesn't).

This means that as individuals are often more affected by their temporal context and peers, as compared to their parental background.
Summary

This implies that researchers working with multigenerational research have to pay great attention to temporal context.

Demographic variance is the most important determinant of socioeconomic and demographic outcomes among descendants of people born in 19th Northern Sweden.

Some of this variance is associated with group differences in reproductive and socioeconomic behaviors, but much of this is not.
Thank you for your time

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