

Multigenerational Perspective on Trends in the Inequality of Educational Opportunity in Japan



Link to paper

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Background

Studies have examined the trends in the relationship between parental SES as the social origin and child educational attainment as the trends in IEO (e.g. Shavit and Blossfeld, 1993; Breen et al., 2009).

However, we cannot interpret the trends as *parental* influence. If recent demographic changes have increased the influence of grandparents (Song and Mare, 2019), we may be overestimating the changes in parental influence.

Two-generation model

(parent) **G2** $\xrightarrow{\beta_{23|G1}}$ **G3** (child)

Three-generation model

(parent) **G2** $\xrightarrow{\beta_{23|G1}}$ **G3** (child)
 ↑ β_{12}
 (grandparent) **G1** $\xrightarrow{\beta_{13|G2}}$ **G3** (child)

RQ: How do the associations of parents' *and grandparents'* educational attainment with their (grand)child's educational attainment have changed across cohorts?

Methods

Data: National Family Research of Japan, 1998 and 2008; Social Stratification and Mobility survey, 2015; and Education, Social Stratification and Mobility survey, 2013.

Sample: Respondent's children who were born between 1950–1989 and who were 20 years of age or older at the time of the surveys. N = 11,416 (sons, from 8,114 respondents); 10,571 (daughters, from 7,694 respondents)

Dependent variable: Child's (G3) educational attainment

Independent variables: Respondents' (G2) educational attainment, parents' (G1) educational attainment, and Child's (G3) birth cohort

Other controls: child's gender, number of siblings, and birth order; respondent's age, gender, marital status, and number of siblings; and survey dummy

Statistical Method:

Linear regression: predicting years of education. i - child, j - respondent

$$Y_{ij}^{continuous} = \tau + \alpha C_i + \beta_1 E_j^{G2} + \beta_2 E_j^{G2} \times C_i + \gamma_1 E_j^{G1} + \gamma_2 E_j^{G1} \times C_i + \delta X_{ij} + u_{ij}$$

Generalized ordered logit: considering the relative "distance" between education category across cohort (Williams 2006; Breen et al., 2009; Fujihara & Ishida 2016)

$$\log \frac{\Pr(Y_{ij}^{discrete} > k)}{\Pr(Y_{ij}^{discrete} \leq k)} = \tau_{kc} + \alpha C_i + \beta_1 E_j^{G2} + \beta_2 E_j^{G2} \times C_i + \gamma_1 E_j^{G1} + \gamma_2 E_j^{G1} \times C_i + \delta X_{ij}$$

Results

For men:

Positive associations between **grandparents'** and their **grandson's** educational attainment have become **stronger in recent cohorts.**

For women:

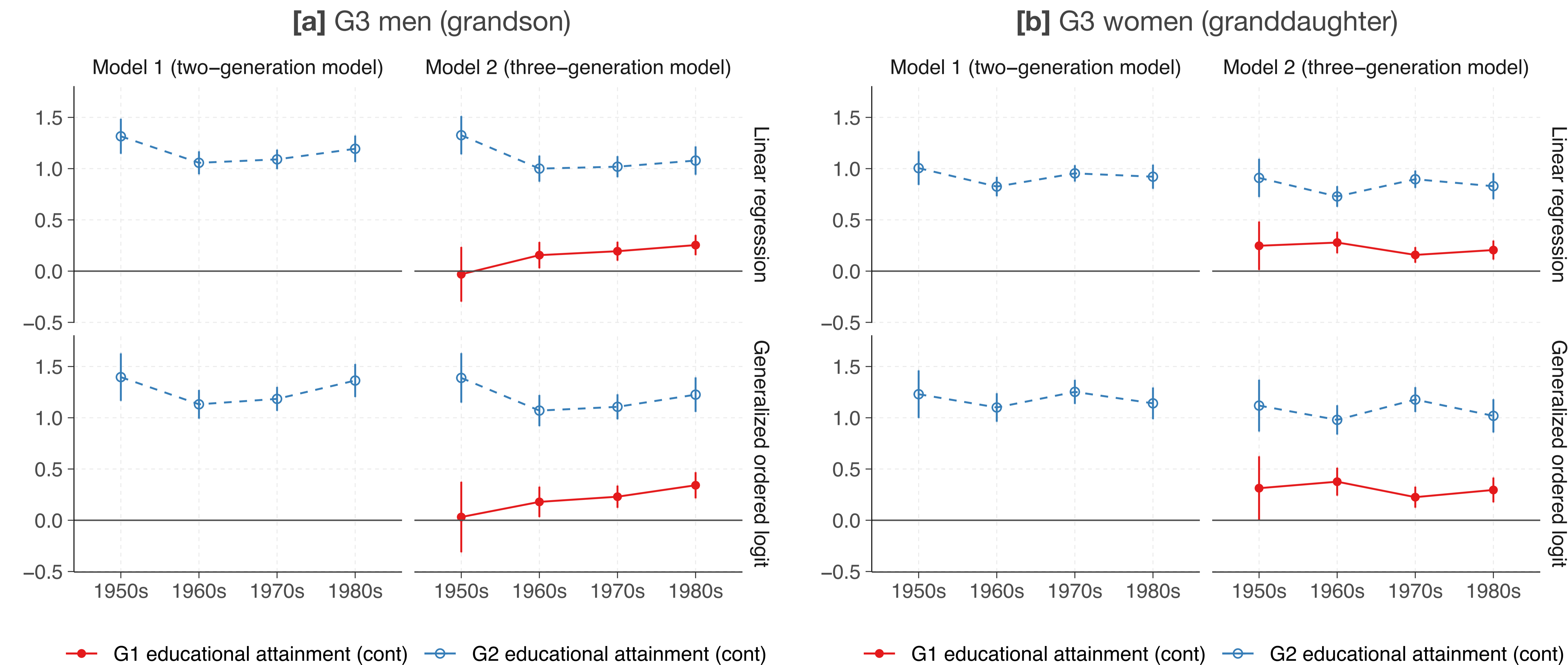
Grandparents' and their **granddaughter's** educational attainment are positively associated but the strength **have not changed.**

The results do not significantly vary by the measurement of G3 educational attainment (absolute/relative).

Table. Descriptive statistics

	G3 men				G3 women			
	1950s	1960s	1970s	1980s	1950s	1960s	1970s	1980s
G1 educational attainment								
1 Junior high	.803	.711	.649	.512	.825	.741	.630	.510
2 High school	.144	.186	.236	.339	.103	.161	.240	.335
3 Tertiary education	.054	.104	.115	.149	.072	.098	.130	.155
G2 educational attainment								
1 Junior high	.476	.265	.122	.030	.473	.277	.118	.027
2 High school	.380	.521	.561	.478	.374	.520	.571	.484
3 Tertiary education	.144	.214	.318	.492	.152	.203	.310	.489
G3 educational attainment								
Yrs of education (mean)	13.869	13.986	14.053	14.459	13.246	13.464	13.815	14.283
1 Junior high	.056	.027	.025	.016	.040	.015	.012	.009
2 High school	.379	.380	.347	.263	.463	.416	.312	.226
3 Junior college	.112	.152	.192	.187	.311	.385	.425	.373
4 University	.453	.441	.436	.533	.186	.184	.251	.391
N of children	880	2236	3513	1993	751	2057	3320	1891

Fig. Trends in the association of G2 and G1 educational attainment with G3 educational attainment across the G3 cohorts



Notes. Coefficients and 95% CIs are shown. Model 1 includes G2 educational attainment, G3 cohorts, interaction of G2 educational attainment with G3 cohorts, G3 number of siblings, G3 birth order, G2 number of siblings, G2 marital status, G2 age, G2 age-squared, G2 gender, and survey dummies. Model 2 includes G1 educational attainment and the interaction with G3 cohorts in the previous model. Thresholds in generalized ordered logit are varied by G3 birth cohorts.

Conclusion

If the effects of grandparents (or potentially other family members) are not taken into account, we may misunderstand changes in parental influence.

Changes in IEO or intergenerational fluidity in the US (Pfeffer and Hertel, 2015) or other societies (Barone and Ruggera 2018; Hannum et al. 2019) may be confounded by increasing grandparental influence reflecting demographic changes such as longevity (Song and Mare, 2019).