



Extending family influence to three generations

**Effects of grandfathers and uncles
on status attainment in the Netherlands
in the nineteenth century**

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Problem Background

- Majority of studies focus on:
 - Parents and children
- Mare (2011), a.o.:
 - Multigenerational view
 - Look beyond parents and take the extended family into account
- Sparked interest in especially grandfathers
- For occupational mobility: handful of studies, mixed results
 - No effect: e.g., Warren and Hauser 1997;
Erola and Moisiu 2007
 - Effect: e.g., Chan and Boliver 2012



Research Problem

- *Descriptive* empirical problem:
 - Do not have a reliable picture of what the world looks like
 - Simply more studies need to be conducted
- *Explanatory* empirical problem:
 - Several arguments have been put forward why the extended family could have an influence over and above that of parents
 - Mechanisms have hardly been tested
 - Testing these helps to understand in what contexts we can expect extended family influences to be prominent



This Paper

- Study the influence of grandfathers and uncles on occupational status attainment of men in the Netherlands in the nineteenth century
 - using a large-scale database containing digitized information from Dutch marriage acts for the period 1812-1922



Contributions to the literature (1)

- Insight how the transfer of status over generations comes about and whether this changes in the Netherlands during the nineteenth century
 - Do we need a multigenerational or extended family perspective, or is the dominant parent-child approach sufficiently adequate?
 - First study in the context of an industrializing Western country
- Testing some of the mechanisms that have been proposed to underlie net grandfather effects:
 - E.g., is it necessary for grandfathers to live in close proximity (in time and space) of their grandsons to have an influence?



Contributions to the literature (2)

- We do not only include the role of grandfathers, but also of uncles
 - First to test in how far the influence of grandfathers is actually one of uncles
 - If uncles mediate most of the effect of the grandfather, we may require a shift from the current focus on grandparents to developing theory on the role of uncles (and aunts)



Theory (1): mechanisms of grandparent effects

- Direct influence through contact
 - Much like parents influence their children
 - *Hypothesis: The larger the distance in time and space between grandfather and grandson, the smaller the grandfather effect*
- Indirect influence through:
 - Uncles and aunts
 - Durable resources and social institutions
 - e.g., land, money; university legacy admission, slavery
 - Influencing demographic behavior of the parents
 - Age of marriage, first birth, number of children, etc.
 - “Biological” arguments
 - Grandmother hypothesis, epigenetic effects



Theory (2): Alternative explanation

- Effects capture in reality unobserved influence of the parents
 - e.g., a father that was socially immobile may have more resources to offer to his children than a father with the same occupation that came from a lower family background (Chan & Boliver, 2012)
 - Including grandparental measures will pick up part of this ‘measurement error’ of parental family resources
 - Hypothesis: Compared to a father that was immobile,
 - a father that is downwardly mobile, has in fact more resources than his own status tells us, so the status of his son should be higher.
 - Father upwardly mobile: the other way around



Method (1): Data

- Genlias: digitized information from Dutch marriage acts from 1812 to 1922
 - Name, place of birth, age and occupation of bridegroom and bride
 - Place and date of marriage
 - Names and occupations of parents of the couple
- Within 5 out of 11 provinces: marriage acts linked to those of parents based on names
- Made a three-generation version out of this



Method (2): Operationalization

Variable	Description
Occupations	Coded in HISCO, mapped onto HISCAM
Status Son	As stated on his own marriage act
Status Father	Mean of what his children reported on their marriage acts
Status Grandfather	Mean of what his children reported on their marriage acts
Average Status Uncles	Average over brothers of father, as reported on their own marriage act



Method (2): Operationalization

Variable	Description
Time	Marriage year of grandfather (subtracted 1812 and then divided by 10)
Temporal Distance	Age difference between grandfather and grandson
Geographical Distance	Distance between place of marriage grandfather and grandson in km (added 1 and then took the log)
Latent resources father;	Status grandfather – Status father;
Positive:	> 3 status points
Negative:	< -3 status points



Method (3): Analytical strategy

Hierarchical Multilevel Regression Model		N
Level 4	Communities (Marr. place x marr. year grandfather)	16,489
Level 3	Fathers' fathers	42,558
Level 2	Fathers	63,290
Level 1	Sons	116,857



Occupational Status Attainment Sons

(1)

Fixed Part

Intercept 47.356***

Status Grandfather#

Status Father#

Status Uncles (av)#

Controls

Nr of uncles and aunts#

Grandfather farmer y/n

Sibship size#

Father farmer y/n

Age at marriage#

Birth order#

Random Part

L4 var(Intercept) 11.523***

L3 var(Intercept) 38.176***

L2 var(Intercept) 27.490***

L1 var(Intercept) 76.920***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$;



Family Influences on Status Attainment

	(1)	(2)

Fixed Part		
Intercept	47.356***	48.346***
Status Grandfather#		0.501***
Status Father#		
Status Uncles (av)#		
Controls		
Nr of uncles and aunts#		-0.111***
Grandfather farmer y/n		-1.935***
Sibship size#		-0.813***
Father farmer y/n		-0.411***
Age at marriage#		0.288***
Birth order#		0.569***

Random Part		
L4 var(Intercept)	11.523***	5.812***
L3 var(Intercept)	38.176***	20.253***
L2 var(Intercept)	27.490***	27.221***
L1 var(Intercept)	76.920***	75.393***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; # = Centered



Family Influences on Status Attainment

	(1)	(2)	(3)
Fixed Part			
Intercept	47.356***	48.346***	48.393***
Status Grandfather#		0.501***	0.186***
Status Father#			0.565***
Status Uncles (av)#			
Controls			
Nr of uncles and aunts#		-0.111***	-0.048*
Grandfather farmer y/n		-1.935***	-0.604***
Sibship size#		-0.813***	-0.678***
Father farmer y/n		-0.411***	-2.390***
Age at marriage#		0.288***	0.253***
Birth order#		0.569***	0.556***
Random Part			
L4 var(Intercept)	11.523***	5.812***	2.666***
L3 var(Intercept)	38.176***	20.253***	7.963***
L2 var(Intercept)	27.490***	27.221***	18.332***
L1 var(Intercept)	76.920***	75.393***	74.861***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; # = Centered



Family Influences on Status Attainment

	(1)	(2)	(3)	(4)
Fixed Part				
Intercept	47.356***	48.346***	48.393***	48.316***
Status Grandfather#		0.501***	0.186***	0.101***
Status Father#			0.565***	0.536***
Status Uncles (av)#				0.162***
Controls				
Nr of uncles and aunts#		-0.111***	-0.048*	-0.047*
Grandfather farmer y/n		-1.935***	-0.604***	-0.527***
Sibship size#		-0.813***	-0.678***	-0.665***
Father farmer y/n		-0.411***	-2.390***	-2.263***
Age at marriage#		0.288***	0.253***	0.248***
Birth order#		0.569***	0.556***	0.556***
Random Part				
L4 var(Intercept)	11.523***	5.812***	2.666***	1.965***
L3 var(Intercept)	38.176***	20.253***	7.963***	7.267***
L2 var(Intercept)	27.490***	27.221***	18.332***	18.149***
L1 var(Intercept)	76.920***	75.393***	74.861***	74.845***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; # = Centered

Family Influences over Time

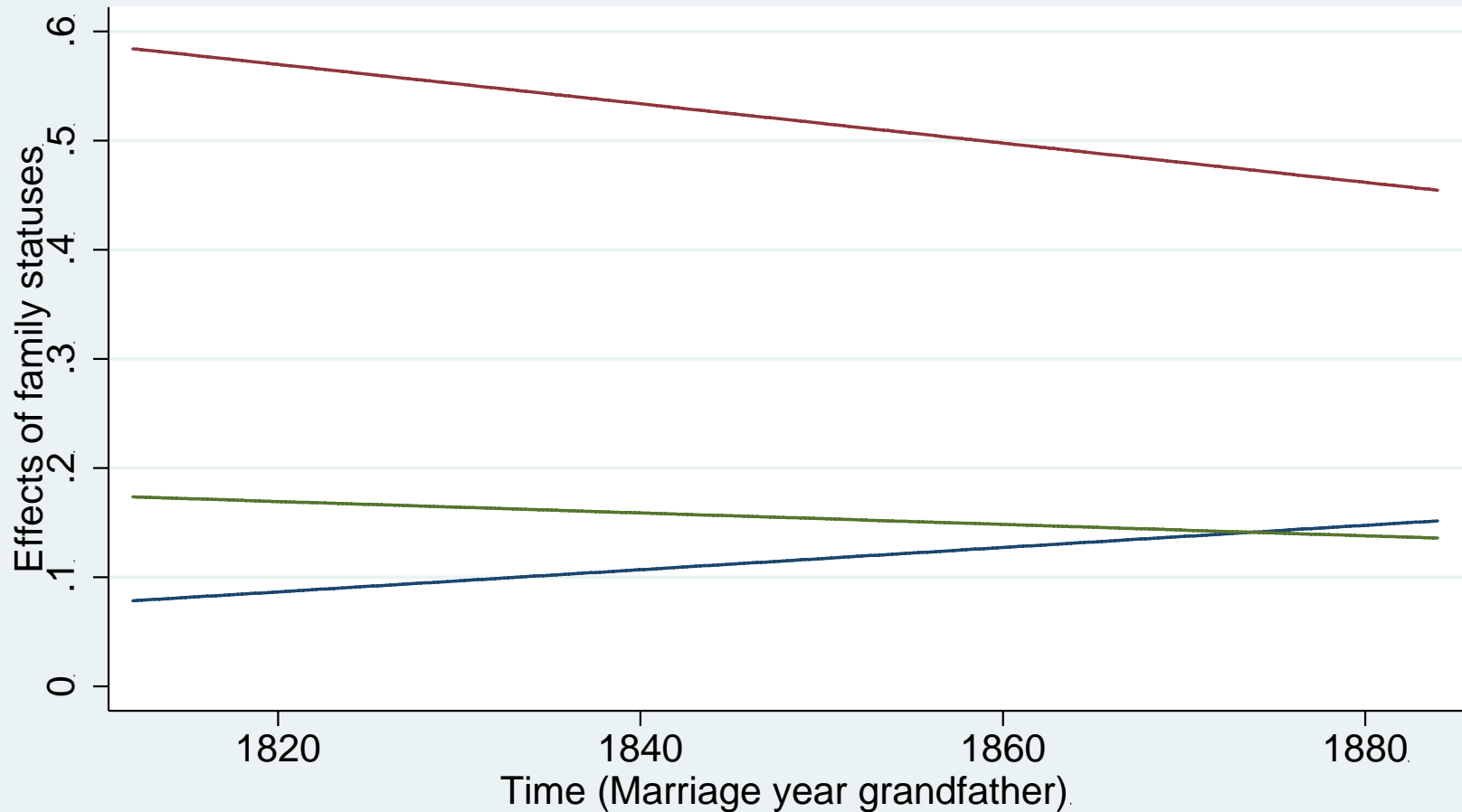
	(5)

Fixed Part	
Intercept	47.106***
Status Grandfather#	0.078***
... x time	0.010**
... x temp dis	
... x geo dis	
Status Father#	0.584***
... x time	-0.018***
Fath. neg. lat. res.	
Fath. pos. lat. res.	
Status Uncles (av)#	0.174***
... x time	-0.005
Time	0.459***
Temporal distance#	
Geograph dist (log)	
Controls	...

Random Part	
L4 var(Intercept)	1.595***
L3 var(Intercept)	7.142***
L2 var(Intercept)	18.123***
L1 var(Intercept)	74.846***

* p<0.05, ** p<0.01, *** p<0.001;	

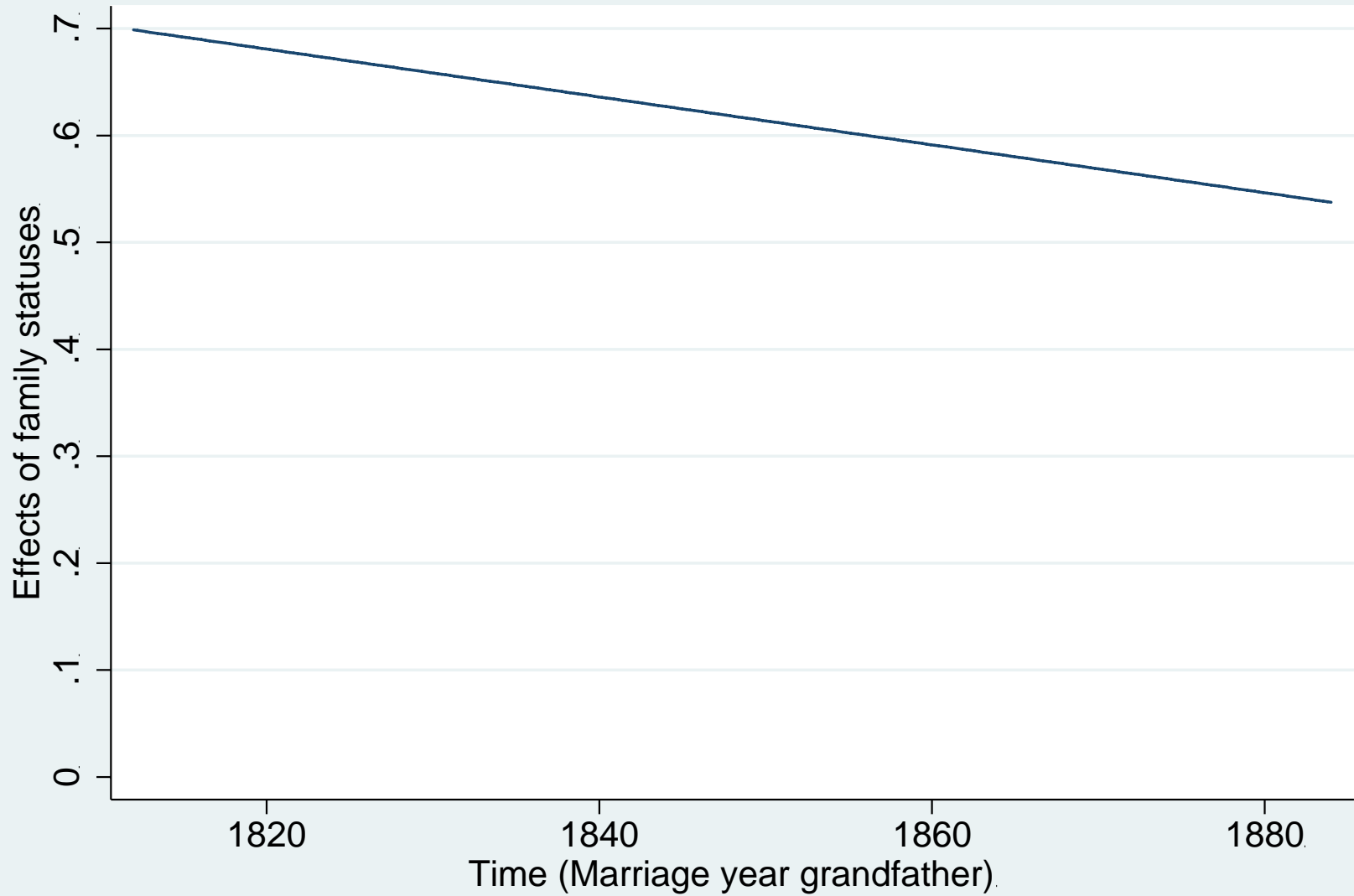
Influence of grandfathers', fathers', and uncles' occ status over t



— Occ status grandfather. — Occ status father.
— Av occ status uncles.



Influence of fathers' occ status over time



"Latent" Father Resources

	(5)	(6)
Fixed Part		
Intercept	47.106***	47.092***
Status Grandfather#	0.078***	0.127***
... x time	0.010**	0.010**
... x temp dis		
... x geo dis		
Status Father#	0.584***	0.535***
... x time	-0.018***	-0.017***
Fath. neg. lat. res.		0.788***
Fath. pos. lat. res.		-0.754***
Status Uncles (av)#	0.174***	0.174***
... x time	-0.005	-0.006
Time	0.459***	0.461***
Temporal distance#		
Geograph dist (log)		
Controls
Random Part		
L4 var(Intercept)	1.595***	1.584***
L3 var(Intercept)	7.142***	7.109***
L2 var(Intercept)	18.123***	18.054***
L1 var(Intercept)	74.846***	74.854***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; # = Centered

Temporal and Geographical Distance

	(5)	(6)	(7)

Fixed Part			
Intercept	47.106***	47.092***	45.650***
Status Grandfather#	0.078***	0.127***	0.150***
... x time	0.010**	0.010**	0.007*
... x temp dis			-0.001*
... x geo dis			-0.010***
Status Father#	0.584***	0.535***	0.524***
... x time	-0.018***	-0.017***	-0.017***
Fath. neg. lat. res.		0.788***	0.631***
Fath. pos. lat. res.		-0.754***	-0.879***
Status Uncles (av)#	0.174***	0.174***	0.174***
... x time	-0.005	-0.006	-0.006*
Time	0.459***	0.461***	0.677***
Temporal distance#			0.089***
Geograph dist (log)			0.639***
Controls

Random Part			
L4 var(Intercept)	1.595***	1.584***	2.024***
L3 var(Intercept)	7.142***	7.109***	7.031***
L2 var(Intercept)	18.123***	18.054***	17.172***
L1 var(Intercept)	74.846***	74.854***	74.165***

* p<0.05, ** p<0.01, *** p<0.001; # = Centered			

Conclusion (1): Descriptive empirical problem

- Do we need a multigenerational or extended family perspective, or is the dominant parent-child approach sufficiently adequate?
 - Grandfather and uncle effects net of father effect
 - Taking a parent-child approach would underestimate the influence of the family
 - Although influence father decreases, influence uncle and grandfather quite stable over time
 - Nuances the decrease over time in family influence
 - Western industrializing country or Netherlands in the nineteenth century?



Conclusion (2): Explanatory empirical problem

- In what way do grandfathers influence the occupational status attainment of their grandsons?
 - Indirectly through uncles
 - Through direct contact
 - Proximity increases grandfather effect
 - Small increase over time explained away by including proximity measures
 - Through indirect mechanisms?
 - It is actually an influence of the father
 - No evidence for this



Conclusion (3): Role of uncles

- Studying grandfathers quite popular recently
- Uncles receive much less attention
- Results show that we should also think about mechanisms through which uncles have an effect
 - Or other extended family members?



Possible Directions

- Find ways to test mechanisms grandfather
- Develop mechanisms for influence uncles
 - Do not take average influence of uncles
- Include also grandfather on mother's side, and other uncles
 - Multiple membership multilevel model?
- Different operationalization of temp and geo proximity
 - Distance place of birth youngest uncle and place of birth son



Descriptive Table

Variable	N	Mean	SD	Min	Max
Status Son	116857	47.12	12.30	10.60	99.00
Status Grandfather	116857	45.23	8.98	10.60	99.00
Status Father	116857	46.73	9.93	10.60	99.00
Status Uncles (average)	116857	44.93	9.40	10.60	99.00
Time	116857	2.59	1.48	0.00	6.90
Temporal distance	116857	66.85	9.63	38.00	125.00
Geograph dist (log)	116857	1.57	1.50	0.00	6.48
g2sibsize	116857	4.88	1.89	2.00	15.00
Grandfath farmer yes/no	116857	0.31	0.46	0.00	1.00
g3sibsize	116857	4.13	2.10	1.00	14.00
Father farmer yes/no	116857	0.29	0.46	0.00	1.00
g3age_marr	116857	26.37	4.67	16.00	66.00
g3birth_ord	116857	2.55	1.66	1.00	14.00

