Childhood Geographical Mobility's Role in Shaping Educational and Occupational Attainment by Age 30 in Finland.

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Introduction

Residential mobility and internal migration play an important role in shaping modern European societies. Families often move for various reasons, including family breakdown or better employment opportunities. Frequent relocations can potentially disrupt children's education, leading to lower academic achievement and possible knock-on consequences for career opportunities.

Using high quality full population register data, this study aims to investigate the relationship between childhood geographical mobility both between and within municipalities on the educational and occupational attainment of young people born in Finland between 1987-1990. The data allowing us to follow individuals' migration histories in childhood and their educational and occupational outcomes until the age of 30-33.

We examine whether the association between childhood mobility during school age and occupational attainment is mediated by coinciding life-course events, and we further examine the role that parental education and own educational attainment might play in mitigating the effects. By examining these aspects, we hope to shed light on how moving in childhood influences the educational and career trajectories of individuals over the life-course. Understanding these dynamics could inform policy and intervention strategies to support children who undergo residential changes and enhance their educational opportunities and later-life chances.

Theoretical background and hypotheses

Reasons for moving are multifaceted and influenced by regional opportunities and parental resources, understanding the various aspects of geographical mobility and its connection to major concurrent life - course events are crucial. Fewer studies have looked at the consequences of moving in childhood in the intergenerational transmission of inequalities (c.f. Tonnessen et al. 2016, McMullin 2021, Bernard 2023) including the consequences of moving in childhood for later life outcomes such as labor market entry. This study aims to address this gap by focusing on the interplay between parental resources, childhood migration and its consequences for 1. Educational attainment and 2. labor market entry by age 30. We do so by utilizing full population register data of individuals born between 1987-1990 in Finland.

Much of the literature on residential mobility suggests that moving has negative consequences for children (Hagan et al. 1996; Pribesh and Downey 1999, Simsek et al. 2021). These effects are often ascribed to the loss of wider social connections in the environment (e.g. Coleman 1988) or to the stress/strain that children experience because of moving (Agnew 1992). However, when controlling for various pre-existing differences between the groups the evidence is more mixed (Tonnessen, 2016, Gambaro et al. 2022; Vidal and Baxter 2018). Simmons et al. (1987) identified that children who are forced to cope with several life transitions concurrently (including family disruption, school transition, and residential mobility) were at greater risk of negative consequences, such as lower self-esteem, and lower grade point averages. Bernard and Perales (2021) indicate that childhood mobility can have long-lasting effects on lifetime mobility and outcomes.

A subset of this literature looks at the timing and accumulation of events in childhood. Moves can occur over varying distances and for different reasons, with shorter moves often associated with more residential changes, and longer distance moves linked to opportunities for employment (Gillespie et al. 2021). There has been growing evidence that the number of moves in childhood matters and that those who move multiple times may be more vulnerable to negative consequences due to multiple disruptions to their school careers. Children from less well-off backgrounds may be doubly disadvantaged given the greater chances of experiencing multiple moves and multiple transitions due to more disruptive life-course events, family and employment instability. At the same time their parents may have fewer resources to

compensate for lost resources resulting from a move potentially leading to cumulative disadvantages (McMullin et al. 2021).

For some socioeconomically advantaged families' movement to a new economic region may occur more often because of the occupational expertise of the parents as migration often can be a way employees match their skills with a suitable employer (Quinn & Rubb, 2005). The importance of the connection between childhood mobility and disadvantages becomes more evident in residential relocation. This differentiation stems for the fact that those facing unemployment and housing instability typically prefer to move within their local vicinity (Kull, et al. 2016). Moreover, since relocation can be costly those who are in more disadvantaged positions may lack the resources to utilize the option to move or in doing so may be more limited in their ability to maintain the same standard of living. Thus, it matters the type of migration that is under investigation. Distinguishing between longer and shorter distances, i.e., migration between municipalities versus residential mobility within them, is vital.

Prior studies on Finnish educational inequalities reveal parental resources and education predict upper secondary enrolment, even after accounting for prior academic performance (Kilpi-Jakonen et al., 2016). Low-educated family backgrounds, parental unemployment, and childhood social assistance elevate the risk of low educational attainment, affecting tertiary education and the job market (Kallio et al., 2016). Thus, while the impact of moving itself on educational attainment may be small the fact that it co-occurs with other important life-course events means that the impact is likely to vary depending on family circumstances and that this in turn will have knock on consequences for labor market entry.

Therefore, we expect that children who migrate during school age may experience more negative consequences to moving especially if they move multiple times *(H1)*, however we also expect that reasons for moving including co-occurring life-course events will explain much of the association *(H2)*. We also expect that the consequences of moving will differ depending on whether or not a person moves within municipalities (residential relocation) and between municipalities (family migration) *(H3)* and finally, we investigate if moving has direct consequences for labor market entry net of educational attainment *(H4)*.

Data and methods

Data: The study utilizes whole population data from Finnish registers, including all children born in Finland between 1987 and 1990, and follows them until the age of 30-33, resulting in a sample size of N=217,715. The dataset includes a comprehensive set of socioeconomic and demographic variables for the entire Finnish population from 1987 to 2020. Specifically, longitudinal information on intra and inter municipal mobility from 1987 to 2020 facilitating an examination of the influence of moving during school age (6-15) on educational attainment and subsequently on labor market opportunities measured using ISEI08. We focus on the period of 1987-2020 to allow for the minimum amount of time for the completion of higher levels of education (average age of higher-level educational completion is age 28). Internal mobility is operationalized using various measures, including the number of moves before school age 0-5, the number of residential moves (within municipalities) during school age (6-15), and the number of moves between municipalities during school age (6-15).

The paper employs ordinary least squares regression to examine the relationship between childhood residential mobility and internal migration on the highest level of educational attainment and occupational attainment by age 30(birth cohort 1990)-33(birth cohort 1987). Models are nested and controls for the family situation both before school age (0-5) and school age +preschool (6-15) are included. Intra and inter municipal migration is examined separately. Models that examine the relationship between intra-municipal migration and educational attainment control for moves between municipalities and vice versa to account for individuals who experience both types of move. We also include a control for moving before school age (0-5) as families are more mobile during this phase but the effects of moving on children's educational attainment may be more limited.

Preliminary Results

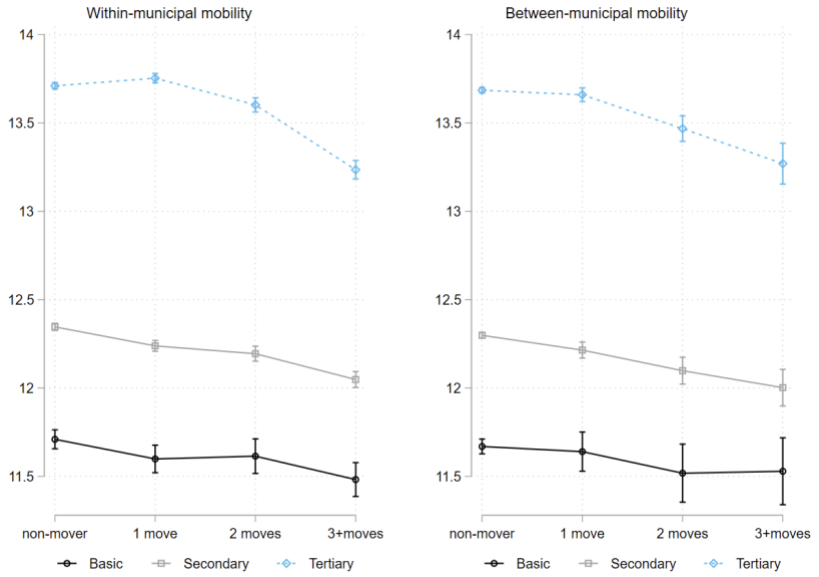
Education: Relocating during school age is linked to lower educational attainment similarly for both moves within or between municipalities. Family circumstances like parental separation or job loss before the child starts school reduces the association. When we consider the reasons for the move and its immediate consequences (M3), the negative impact of parental relocations on educational attainment is further attenuated. Notably, the disparity between movers and non-movers is more pronounced among individuals who relocate multiple times.

Table 1. OLS regression of moving within and between municipalities during school age (6-15) on educational attainment measured in years

	M1 Background +moves before school age	M2: M1+ family situation age (0-5)	M3: M2+ coinciding events		M1 Background +moves before school age	M2: M1+ family situation age (0-5)	M3: M2+ coinciding events
Reference: no move within municipalities (age 6-15)				***Reference: no move between municipalities (ages 6-15)***			
moved once (6-15)	-0.171***	-0.097***	-0.027**	moved once	-0.197***	-0.134***	-0.049***
moved twice (6-15)	-0.393***	-0.271***	-0.124***	moved twice	-0.448***	-0.334***	-0.204***
moved 3+ (6-15)	-0.786***	-0.582***	-0.351***	moved 3+	-0.614***	-0.458***	-0.319***
moves (0-5)	-0.105***	0.003	0.018*	moves (0-5)	-0.103***	0.005	0.020**
Separated (0-5)		x	x			x	x
Parents' LFS (0-5)		x	x			x	x
Separated (6-15)			x				x
Parents LFS (6-15)			x				x
Constant	11.439***	11.639***	11.848***	Constant	11.447***	11.649***	11.860***
R-squared	0.153	0.166	0.175	R-squared	0.154	0.166	0.175

Note: all models control for gender, birth cohort, other migration type and parental education level, N=244,252, *** p<0.01, ** p<0.05, * p<0.1

The interaction between parental education (social origin) and moving (figure 1.) suggests that moving 3+ times is more harmful for those whose parents have a higher level of educational attainment. This is also the case for those whose parents have a basic level of education. Results are similar for those who move between municipalities.

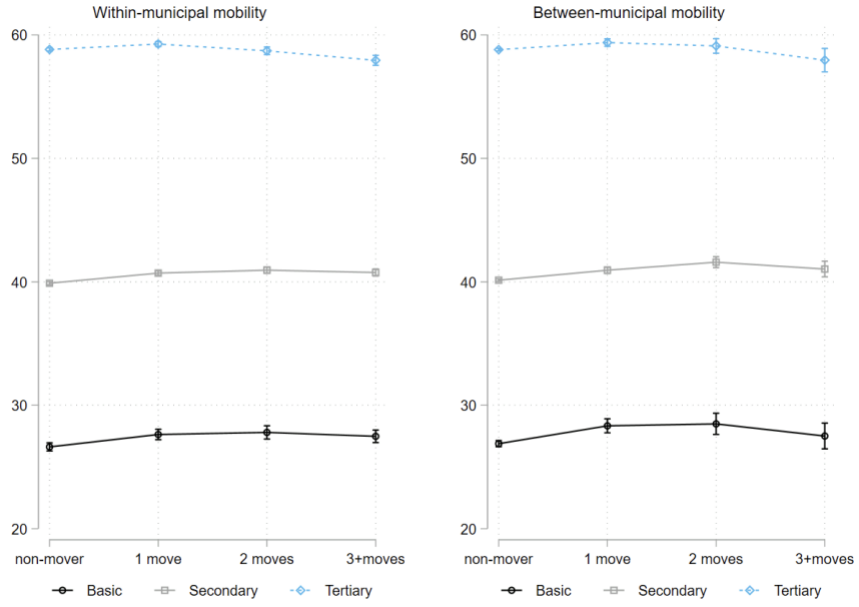


Occupational attainment: In our second analysis, we examine occupational attainment. Our initial model (M1) shows a negative impact of moving on occupational attainment, which reverses when we account for one's educational level, except for those who moved multiple times (M2). Only when we consider coinciding life events does this association become positive (M3+M4). Similar trends are observed for those

who moved between municipalities. The interaction between educational attainment and moving suggests that multiple childhood moves has a slight residual negative effect for those who obtain a higher level of education net of other coinciding events, but on the whole, these results indicate that much of the association between moving and early occupational attainment is channeled through its' impact on education.

Table 2. OLS regression of moving within and between municipalities during school age (6-15) on occupational attainment by age30-33

	M1 Baseline controls	M2: M1+ own education	M3: M2+ family situation (0-5)	M4: M3+ coinciding events (6-16)		M1 Baseline controls	M2: M1+ own education	M3: M2+ family situation (0-5)	M4: M3+ coinciding events (6-16)
Reference: no move within municipalities (6-15)					***Reference: no move between municipalities (6-15)***				
moved 1 (6-15)	-0.454***	0.418***	0.578***	0.655***		0.193	0.550***	0.650***	0.789***
moved 2	-2.185***	0.152	0.426***	0.600***		-1.189***	0.678***	0.851***	1.082***
moved 3+	-5.471***	-0.439***	0.020	0.310**		-3.473***	-0.188	0.028	0.297
Own education (ref. primary)									
Secondary or non-HE		13.403***	13.217***	13.149***			13.366***	13.201***	13.136***
Higher education		32.243***	31.899***	31.744***			32.201***	31.887***	31.737***
Parental education		x	x	x			x	x	x
Separated (0-5)			x	x				x	x
Parent's LFS (0-5)			x	x				x	x
Seperated(6-15)				x					x
Parents LFS (6-15)				x					x
Constant	48.893***	26.619***	27.364***	28.026***		49.497***	26.989***	27.701***	28.362***
R-squared	0.014	0.345	0.347	0.348		0.015	0.345	0.347	0.348
Note: all models control for gender, birth cohort, other migration type, moves (0-5) and parental education level, N=244,252,									



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