Heterogeneity in Childhood Residential Mobility Trajectories: Implications for Adult Preventative Healthcare Use

Justė Lekštytė (UAB/CED)

Johan Junkka (Umeå University)

Introduction

- **Preventative healthcare** is key to well-being, reducing costs, and improving lifespan.
- Preventive care measures:
  - Primary prevention (e.g. vaccinations)
  - Secondary prevention (e.g. cancer screenings)
  - Tertiary prevention
- Another important aspect is whether healthcare is accessed in a *timely manner* to prevent serious health issues.

Introduction

- **Life-course factors** (e.g., poverty, parental separation, **residential instability**) shape preventative health behaviours (Abel & Frohlich, 2012; Kuh & Ben-Shlomo, 2004).
- Moves **disrupt relationships with healthcare providers**, reducing access to care (Busacker & Kasehagen, 2012; Hutchings et al., 2016; Nathan et al., 2022).
- Limitations in research:
  - Mobility is treated as a uniform experience
  - **Long-term effects** on preventative healthcare utilization remain underexplored.

Hypothesis

Frequency

- Higher mobility during childhood is associated with lower preventative healthcare use in adulthood due to disrupted healthcare continuity.

Timing of moves

- Moves during adolescence compared to early childhood have stronger negative effects on preventative healthcare engagement later in life.

Distance of moves

- Long-distance moves pose access challenges.

Socioeconomic context of moves

- Upward mobility mitigates negative effects of moving, while downward mobility exacerbates barriers to preventative healthcare.

Hypothesis

Frequency

- Higher mobility during childhood is associated with lower preventative healthcare use in adulthood due to disrupted healthcare continuity.

Timing of moves

- Moves during adolescence compared to early childhood have stronger negative effects on preventative healthcare engagement later in life.

Distance of moves

- Long-distance moves pose access challenges.

Socioeconomic context of moves

- Upward mobility mitigates negative effects of moving, while downward mobility exacerbates barriers to preventative healthcare.

Hypothesis

Frequency

- Higher mobility during childhood is associated with lower preventative healthcare use in adulthood due to disrupted healthcare continuity.

Timing of moves

- Moves during adolescence compared to early childhood have stronger negative effects on preventative healthcare engagement later in life.

Distance of moves

- Long-distance moves pose access challenges.

Socioeconomic context of moves

- Upward mobility mitigates negative effects of moving, while downward mobility exacerbates barriers to preventative healthcare.

Hypothesis

Frequency

- Higher mobility during childhood is associated with lower preventative healthcare use in adulthood due to disrupted healthcare continuity.

Timing of moves

- Moves during adolescence compared to early childhood have stronger negative effects on preventative healthcare engagement later in life.

Distance of moves

- Long-distance moves pose access challenges.

Socioeconomic context of moves

- Upward mobility mitigates negative effects of moving, while downward mobility exacerbates barriers to preventative healthcare.

Swedish context

Primary care organisation (pre-2010)

- Locations planned by counties based on population health needs
- No provider choice → patients assigned to nearest centre

Implications of moving

- Switching primary care centre
- Disrupted continuity of care, especially for children

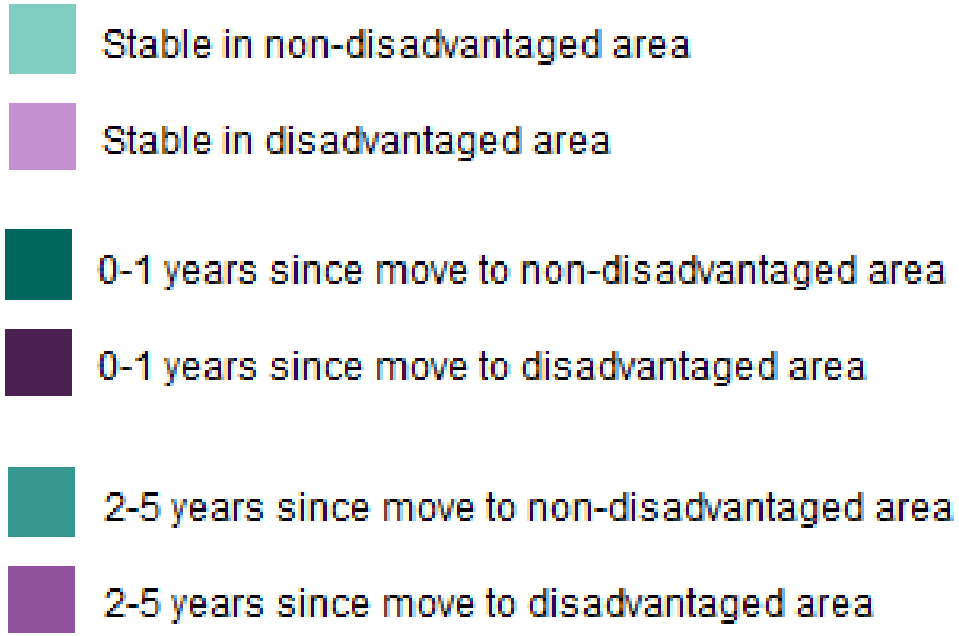
Data

Swedish register data

- 1990-1993 cohorts
  - Lived in country during childhood (until 16)
  - followed until 2021
  - N = 417,850
- Mobility defined as change in DeSO

Variables

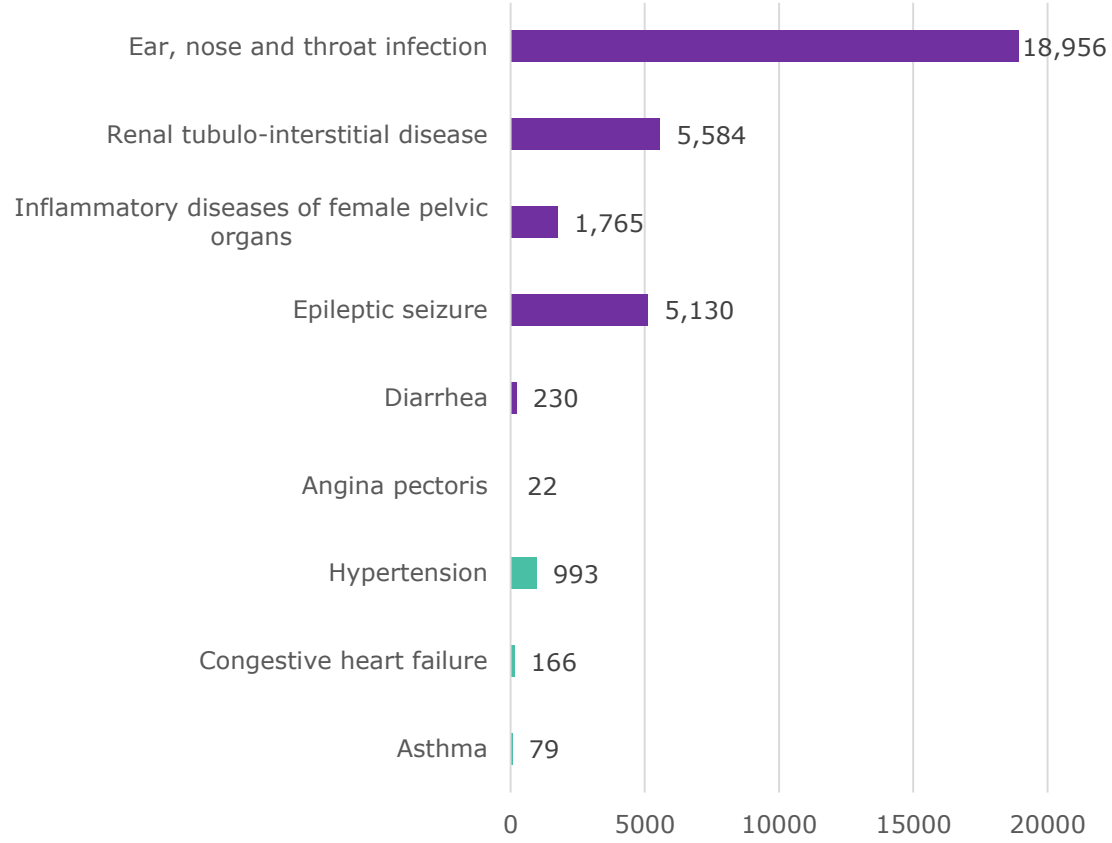
Residential mobility:



Variables

Preventative healthcare:

- potentially avoidable hospitalization
  - (1 = yes/0 = no) until 2021



Variables

Preventative healthcare:

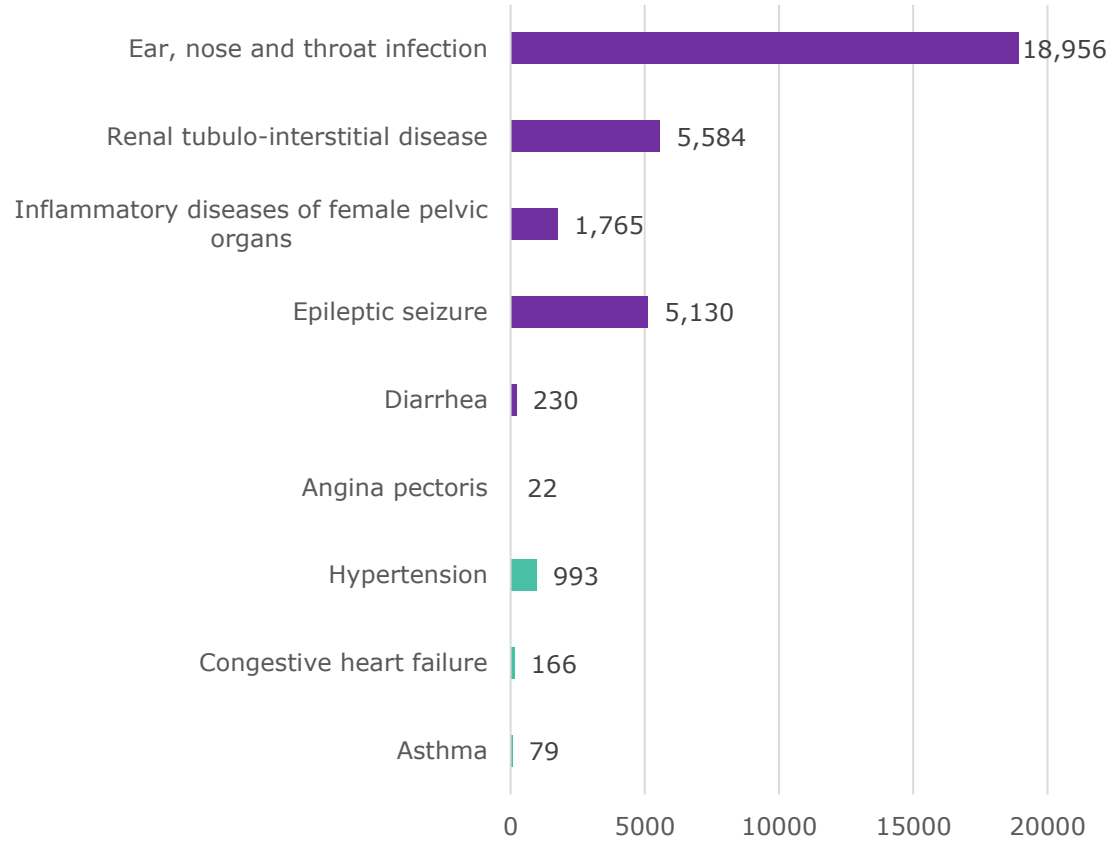
- potentially avoidable

hospitalization

  - (1 = yes/0 = no) until 2021

Controls:

- gender
- parental migration background
- cohort
- parental education at the age of 5



Method

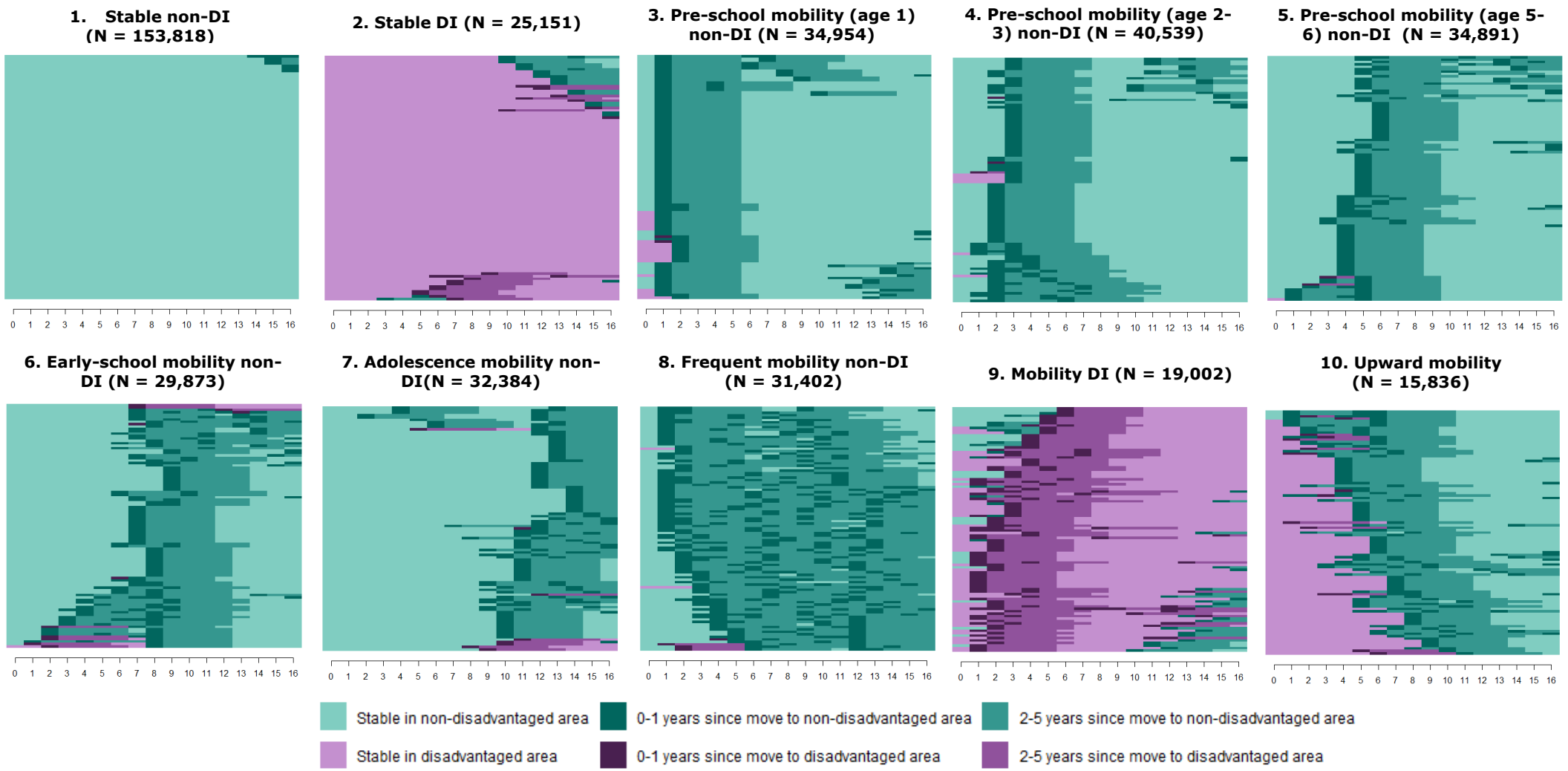
Step 1:

- Sequence analysis
  - Dynamic Hamming Distance (DHD) algorithm,
- Clustering
  - CLARA (clustering in large applications).

Step 2:

- Regression on key indicators—ever moved, frequency, age of move.
- Logistic regression to predict preventative healthcare use with typology.

Results


1. Stable non-DI (N = 153,818)
2. Stable DI (N = 25,151)
3. Pre-school mobility (age 1) non-DI (N = 34,954)
4. Pre-school mobility (age 2-3) non-DI (N = 40,539)
5. Pre-school mobility (age 5-6) non-DI (N = 34,891)
6. Early-school mobility non-DI (N = 29,873)
7. Adolescence mobility non-DI(N = 32,384)
8. Frequent mobility non-DI (N = 31,402)
9. Mobility DI (N = 19,002)
10. Upward mobility (N = 15,836)
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Stable in non-disadvantaged area
0-1 years since move to non-disadvantaged area
2-5 years since move to non-disadvantaged area
Stable in disadvantaged area
0-1 years since move to disadvantaged area
2-5 years since move to disadvantaged area

Results

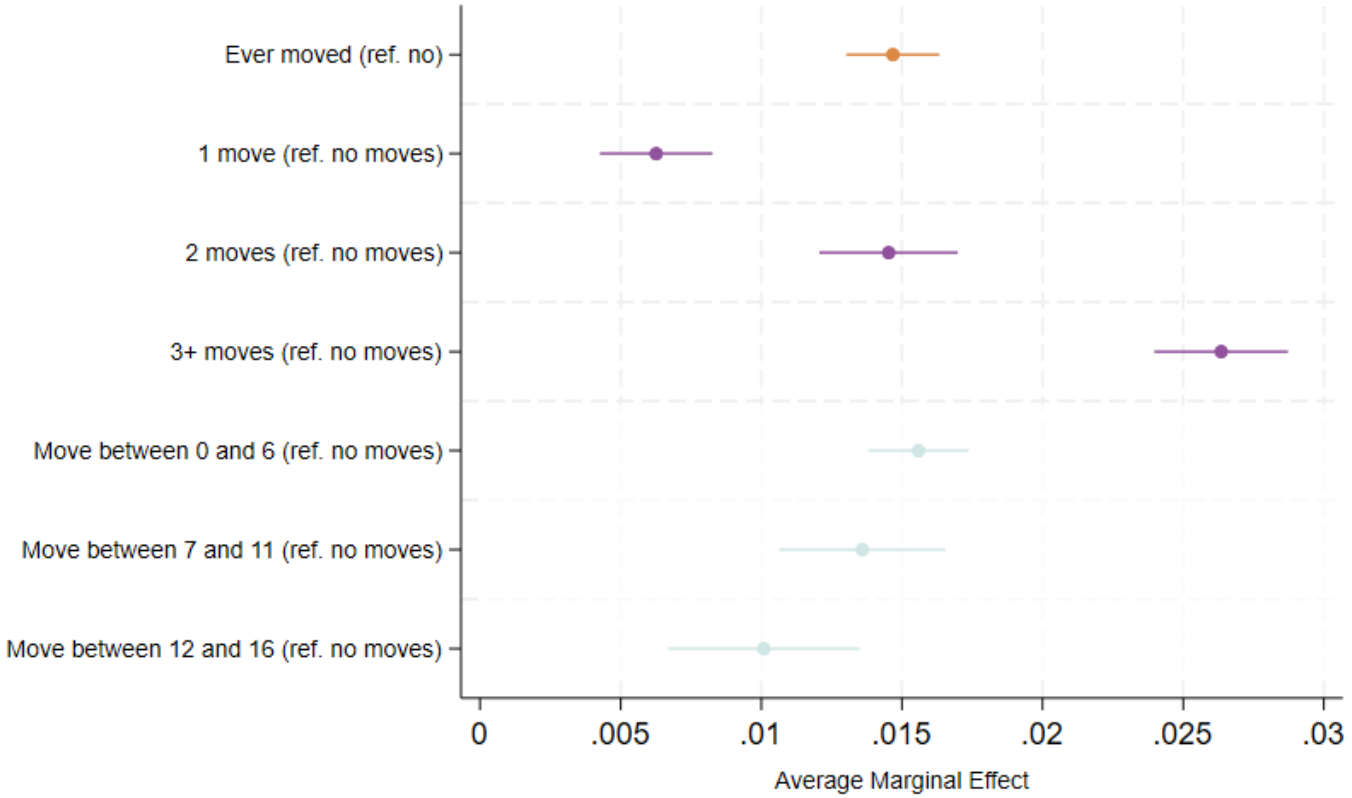


Figure 1. Average marginal effects (AMEs) coefficients for basic indicators of mobility trajectories across logistic models predicting PAH

Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

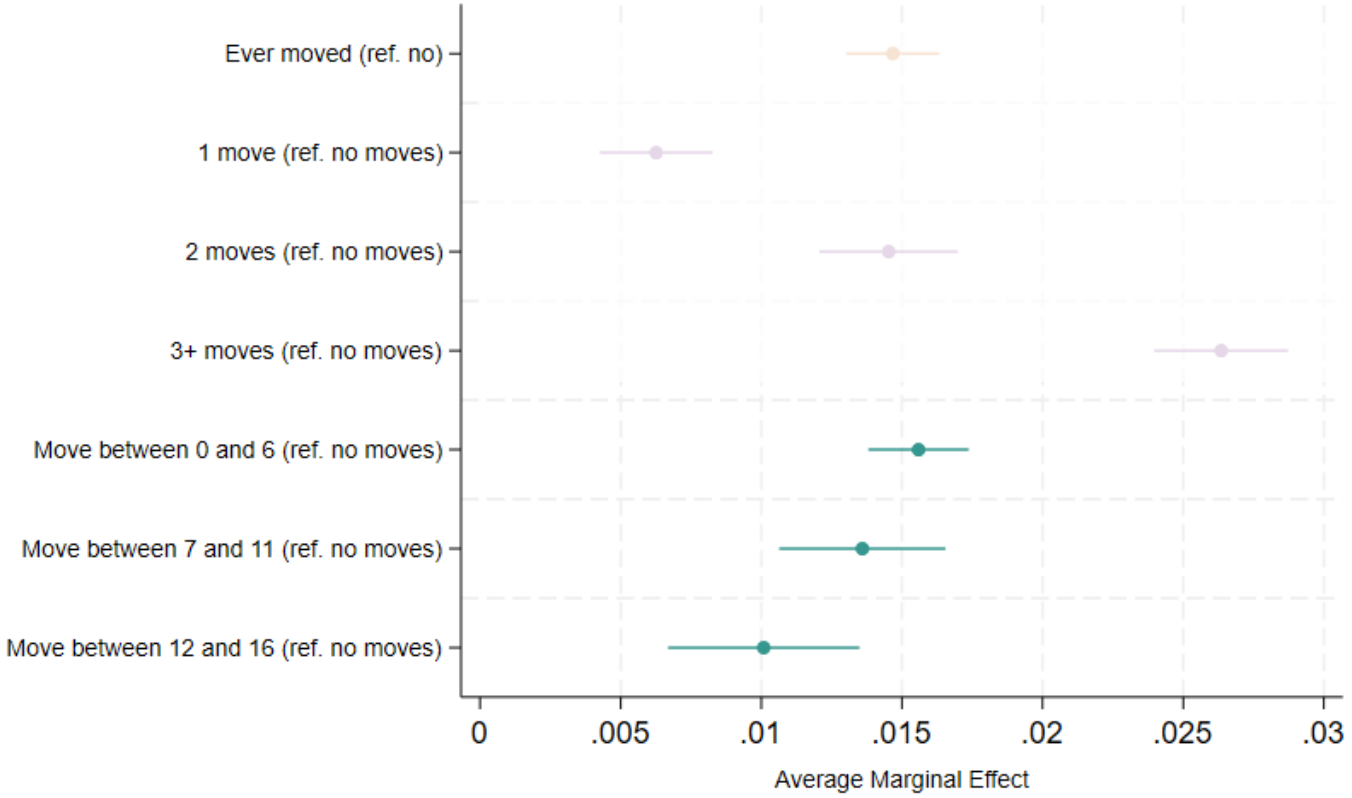


Figure 1. Average marginal effects (AMEs) coefficients for basic indicators of mobility trajectories across logistic models predicting PAH

Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

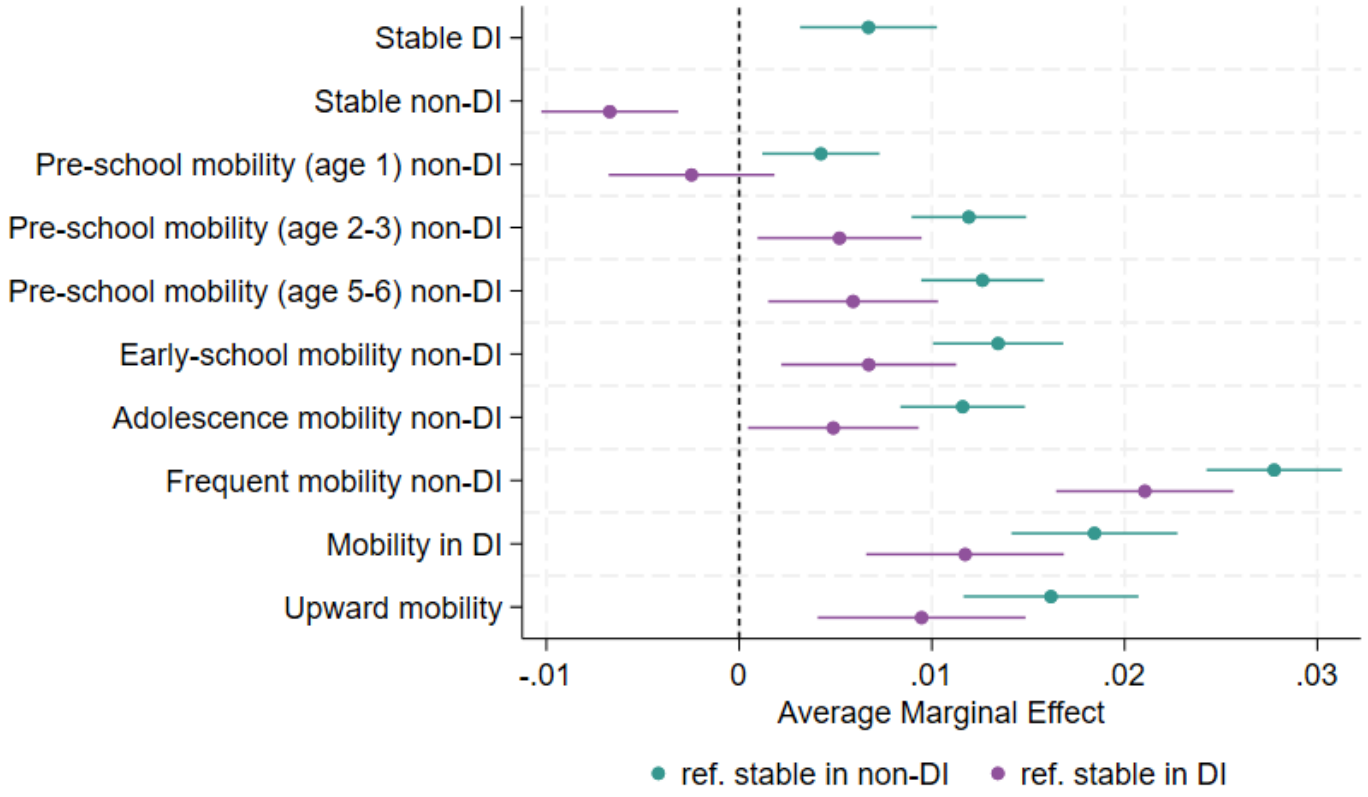


Figure 1. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

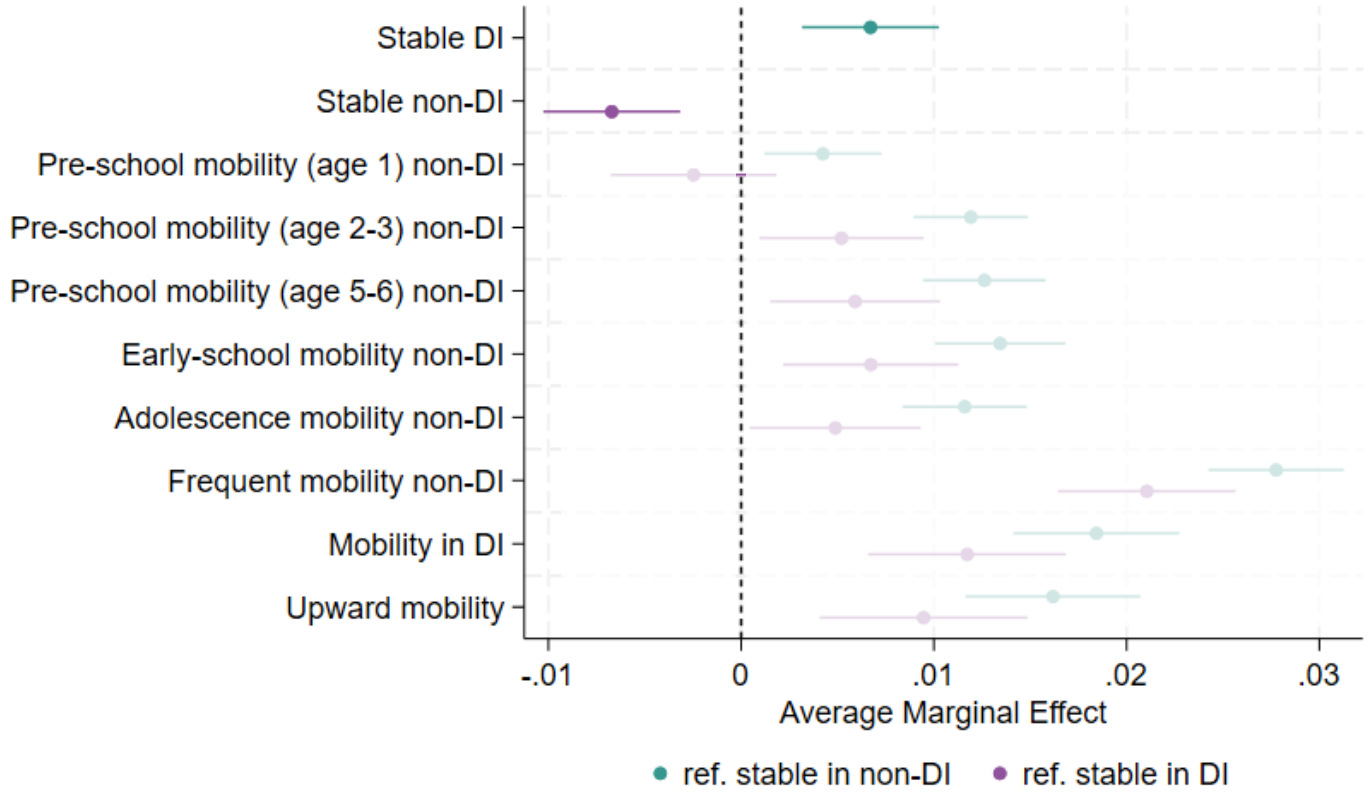


Figure 1. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

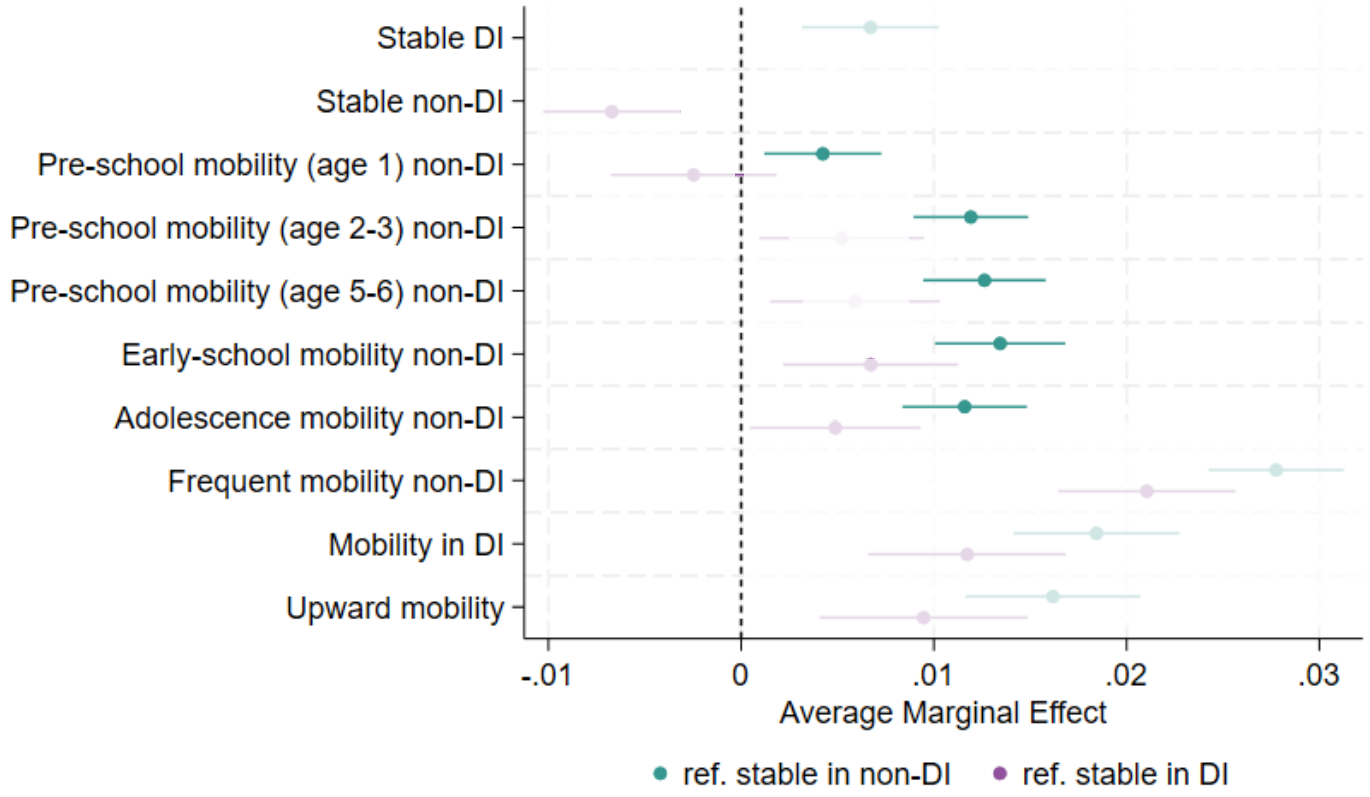


Figure 1. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

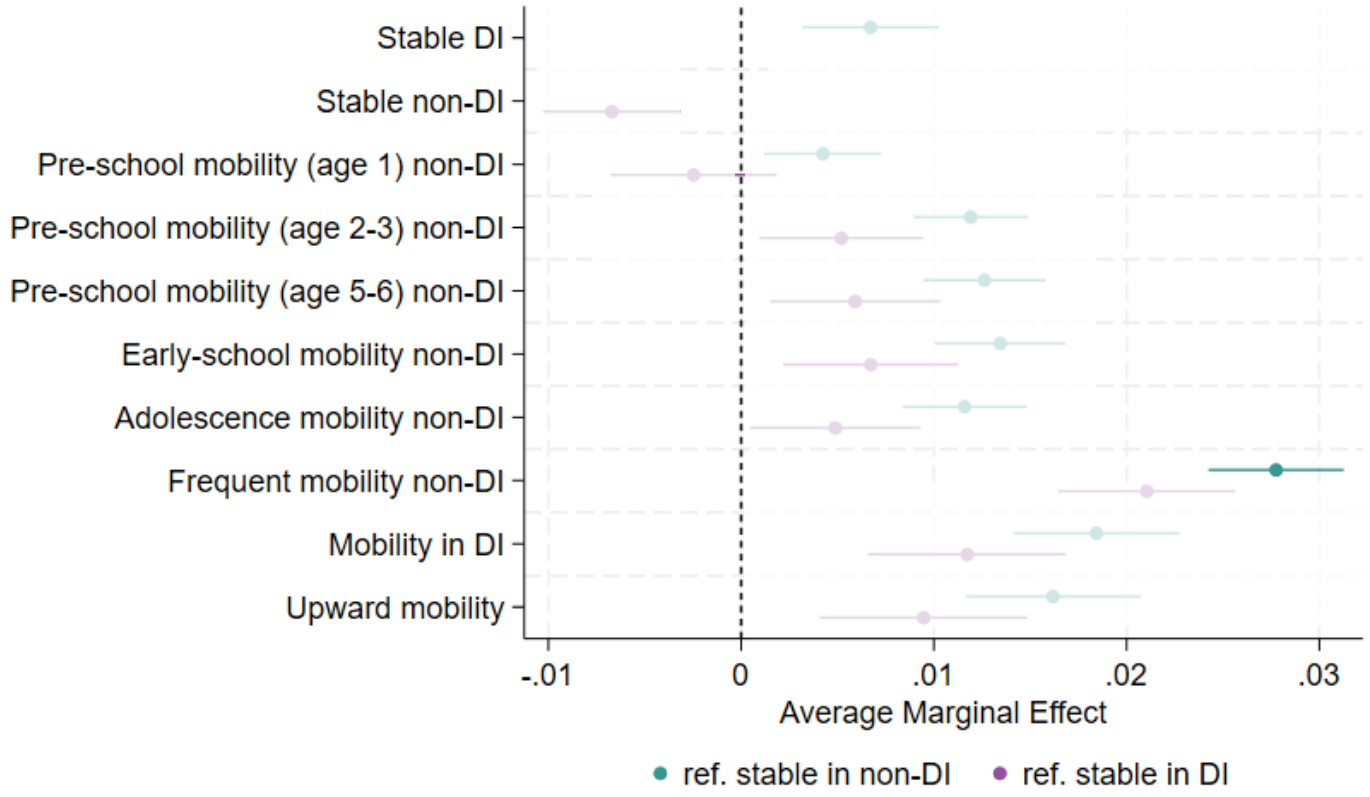


Figure 1. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

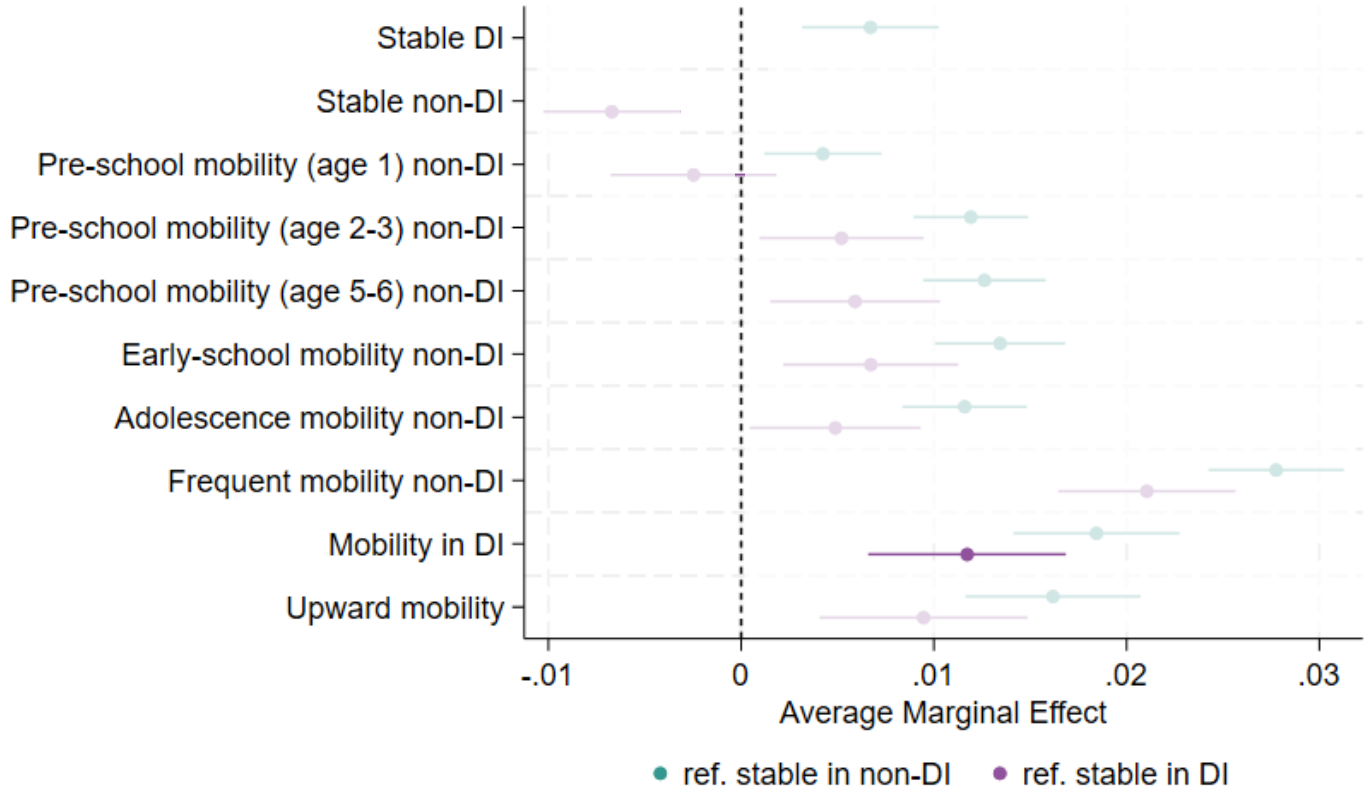


Figure 1. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Results

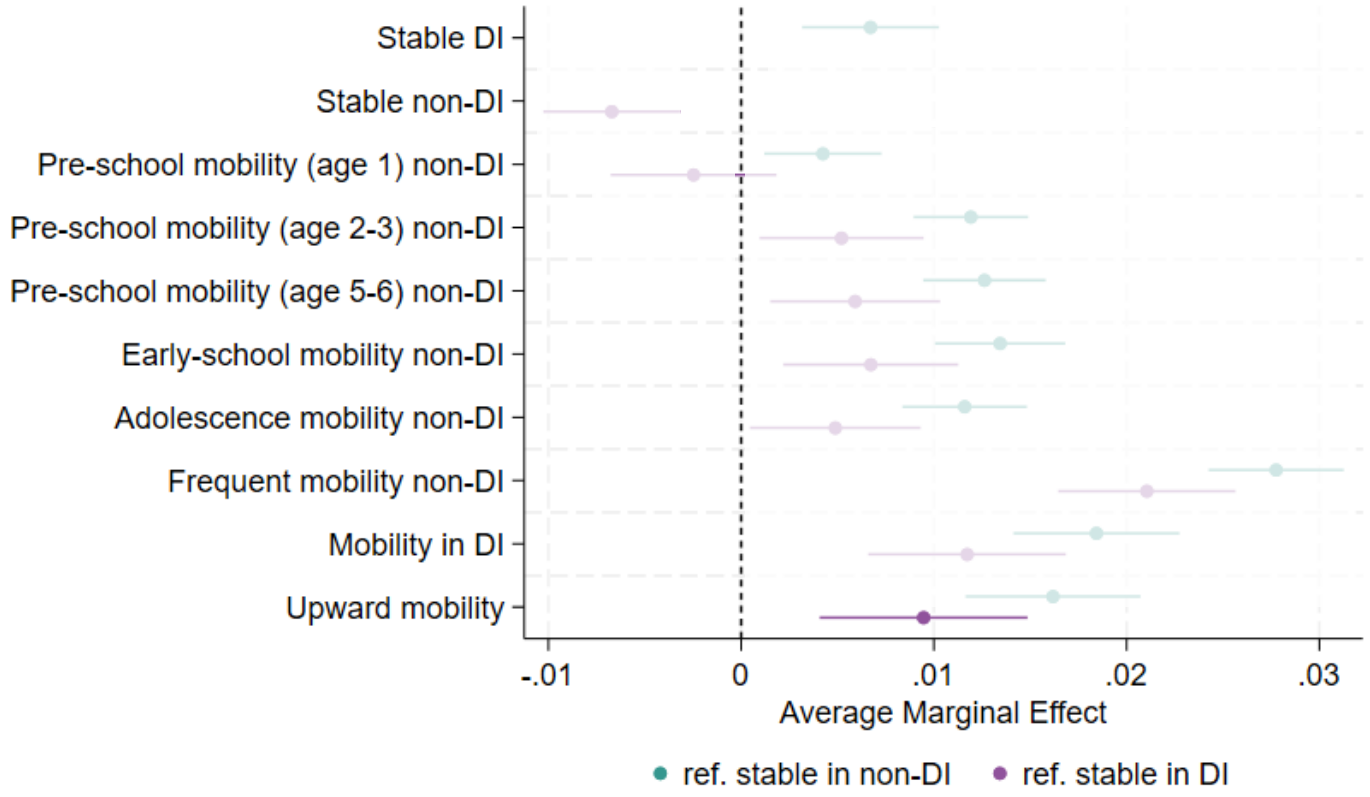


Figure 1. Average marginal effects (AMEs) coefficients for residential mobility in childhood typologies across nested logistic models predicting PAH
Notes: gender, parental migration background, parental education, cohorts are added as controls.

Main takeaways

- Childhood residential mobility is linked to lower engagement with preventative healthcare in adulthood.
  - Nature of moves is key:
    - Frequent movers
    - Moves in disadvantaged context
- Basic indicators vs. sequence analysis
- Magnitude of effects
  - Comparable to or greater than parental education

Thank you for your attention!

Justė Lekštytė

Universitat Autònoma de Barcelona, Centro de Estudios Demográficos

jlekstyte@ced.uab.es

LIFELONGMOVE

Understanding spatial mobility from early life into adulthood

European Research Council
Consolidator Grant (CoG)

Ref: 101043981
Period: Jan 2023 – Dec 2027

Appendix

Condition	ICD-10 coding	N
Chronic conditions		
Anemia	D501, D508, D509	0
Asthma	J45, J46	79
Diabetes	E101–E108, E110–E118, E130–E138, E140–E148	0
Congestive heart failure	I50, I110, J81	166
Hypertension	I10, I119	993
Chronic obstructive pulmonary disease	J41, J42, J43, J44, J47 J20 if secondary diagnosis J41, J42, J43, J44 or J47	0
Angina pectoris	I20, I240, I248, I249	22
Acute conditions		
Bleeding ulcer	K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286	0
Diarrhea	E86, K522, K528, K529	230
Epileptic seizure	O15, G40, G41, R56	5,130
Inflammatory diseases of female pelvic organs	N70, N73, N74	1,765
Renal tubulo-interstitial disease	N390, N10, N11, N12, N136	5,584
Ear, nose and throat infection	H66, H67, J02, J03, J06, J312	18,956

Deprivation index

- individuals aged 25–64 years:
  - low educational status (<10 years of formal education);
  - low income (income from all sources, including from interest and dividends), defined as <50% of the median individual income;
  - unemployment (excluding full-time students, those completing compulsory military service, and early retirees);
  - receipt of social welfare.
- Each indicator is standardised (converted to z-scores), and the z-scores are summed to create a composite deprivation score.
- DeSO areas falling within the top 20% of deprivation scores in a given year are classified as disadvantaged (coded 1), while all others are coded as non-disadvantaged (coded 0).