

Motivation

- The French healthcare system is recognized for its quality but **health inequalities are high** at all stages of the life course.
- Inequalities in health begin from the starting gate and children's early environment "get under the skin" from birth. **Early childhood is crucial** to understand health inequalities in later life.

Research questions

- How are deprivation and its different dimensions linked to early health? Does it vary according to child's age?
- Does the depth of deprivation and accumulation of deprivation play a significant role?

Data

Etude Longitudinale Française depuis l'Enfance (Elfe):

- France's first large scale cohort study, following 18,000 children born in 2011 at a representative sample of 344 French hospitals;
- Data collected shortly after birth in hospital; then phone interviews at 2 months, 1, 2, 3.5, 5.5 years.

Health outcomes

- Health status:** parent-reported "good" vs "less than good";
- Probability to become overweight;**
- Wheezing:** at least one episode in the last 12 months;
- Unintentional injury:** injury required contact with medical services in the last 12 months.

Multidimensional deprivation

- Based on counting methods (Alkire and Foster, 2009);
- Our adaptations:
 - Conceptualisation of deprivation as child-centered;
 - Longitudinal measures that are comparable but adapt over time to account for children's changing needs.
- Dimensions of deprivation: material, housing, extreme living conditions, parenting, health behaviours (Panico et al., 2019);

A child is classed as multidimensionally deprived if defined as deprived in at least two dimensions.

Patterns of multidimensional deprivation

Table 1: Share of deprived children, by age

	2m	1y	2y	3.5y	5.5y
Material deprivation	7.6	6.1	6.7	2.2	3.3
Housing deprivation	19.7	14.6	10.7	9.1	7.8
Extreme living conditions	2.4	1.9	1.8	1.4	0.9
Parenting deprivation	1.1	3.7	5.1	4.0	4.0
Health behaviour deprivation	48.7	37.5	45.4	59.8	50.1
Multidimensionally deprived	14.9	12.4	12.8	11.1	9.7

Deprived children: Children with parents with low education, with a migrant background, without employment, from single-parent hh. **Children from these groups are 2-4 times more likely to be deprived.**

Correlations between deprivation and early health

Table 2: Marginal effects of deprivation and its different dimensions on health outcomes, pooled probit models

	General health	Overweight	Wheezing	Injury
Model 1				
Overall deprivation	0.027***	0.011**	0.013	0.010**
Model 2 – Dimensions of deprivation				
Material	0.026**	-0.002	0.012	0.002
Housing	0.030***	0.014***	0.013	0.007
Extreme living condit.	0.002	0.008	0.031*	0.006
Parenting	0.013	0.011	-0.018	0.007
Health behaviours	0.007	0.006**	0.002	-0.001
N	46,942	40,151	57,158	57,176

Note: every column is a result of a separate regression. *Ns* vary as not all health outcomes are present in every wave. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Additional controls are child's gender and age in months, parents' education, number of siblings, birth weight, maternal smoking during pregnancy, region of residence, year of interview.

Age-related patterns: The association between deprivation and overall general health appears from the age of 2 years and becomes stronger with age; for other health outcomes, we do not find particular age-related patterns.

Table 3: Depth of deprivation and health outcomes, marginal effects

	General health	Overweight	Wheezing	Injury
Model 3 – Number of deprivation dimensions				
<i>Base - not deprived (43.1%)</i>				
1 dimension (44.8%)	0.013***	0.007**	0.002	-0.003
2 dimensions (10.3%)	0.030***	0.011**	0.016*	0.008
3+ dimensions (1.8%)	0.062***	0.046***	0.007	0.011
Model 4 – Combinations of dimensions				
Housing and Health	0.026**	0.015**	0.017	0.013*
Material and Health	0.045**	-0.005	0.019	0.001
Parenting and Health	-0.001	-0.006	-0.011	0.011
Mat., Hous. and Health	0.080***	0.023	-0.012	0.002
Other combinations	0.015	0.017*	0.027	0.011
Controls:	Yes	Yes	Yes	Yes
N	46,942	40,151	57,158	57,176

Table 4: Accumulation of deprivation by age 5.5 years (complete case analyses)

	General health	Overweight	Wheezing	Injury
<i>Base – never have been deprived (75.2%)</i>				
Once over 5 years (14.6%)	0.038**	0.009	0.036**	0.015
Twice over 5 years (5.5%)	0.075**	-0.001	0.074***	0.013
3-5 times over 5 years (4.7%)	0.085**	0.014	0.054*	0.004
Controls:	Yes	Yes	Yes	Yes
N	7,515	6,815	7,502	7,515

Conclusion

- Around 12% of children are identified as multidimensionally deprived during their early childhood in this nationally-representative sample of children born in France in 2011;
- Deprived children have poorer general health, are more likely to be overweight, and are more likely to report unintentional injury;
- Housing deprivation drives the results for general health and overweight, while material deprivation is only related to general health and extreme living conditions is only related to wheezing;
- Both depth and accumulation of deprivation matter for general health, while it is only depth of deprivation for the probability to be overweight and accumulation of deprivation over time for wheezing.