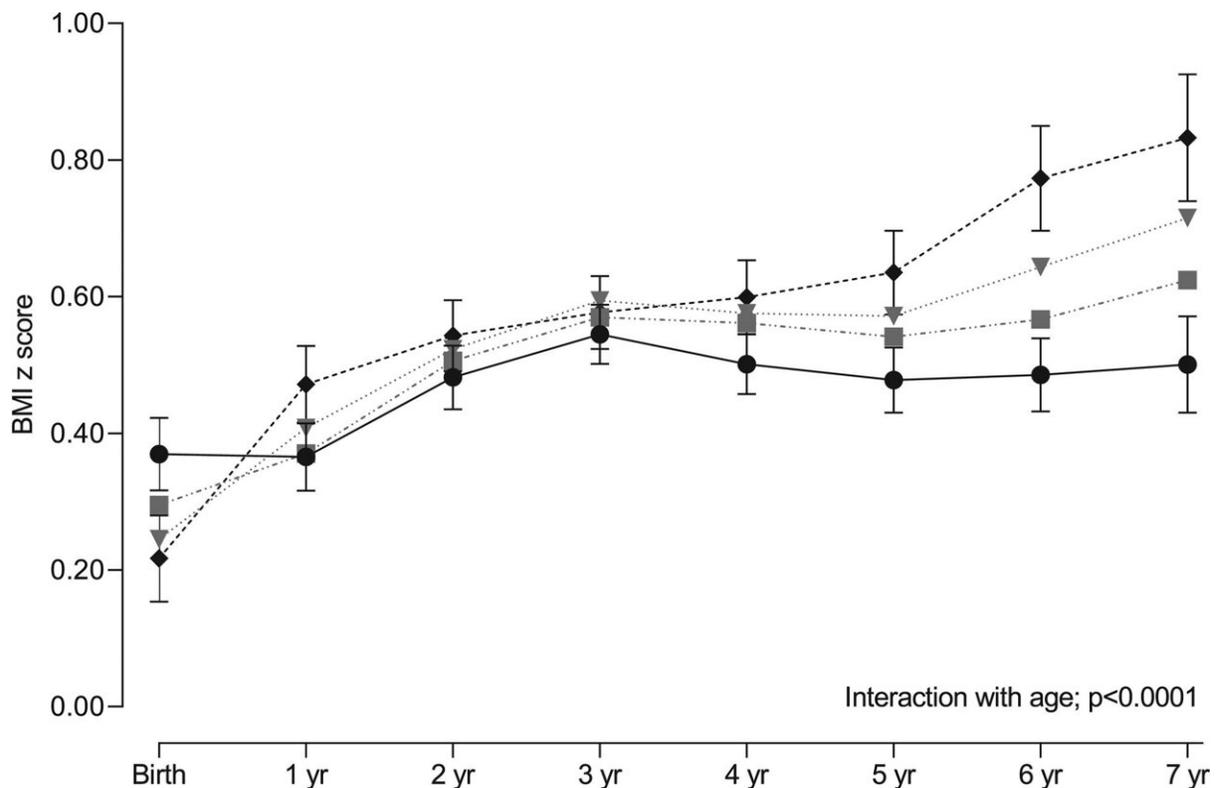


Living environment affects child's weight development from birth to school age

January 24 2022



Neighborhood disadvantage

- < -1 SD
(lowest)
- -1 to 0
SD
- ▼ >0 to 1
SD
- ◆ > 1 SD
(highest)

BMI z score trajectories in children exposed to cumulative neighborhood socioeconomic disadvantage. BMI z scores are expressed as mean values and their 95% confidence intervals from birth to 7 years of age. The marginal structural GEE models with inverse probability weighting are adjusted for child

sex, preterm birth, maternal age, primiparity, single parenthood, immigrant background, smoking during pregnancy, prepregnancy obesity, gestational diabetes mellitus, other maternal medical conditions during pregnancy, and parental socioeconomic status. We detected no interaction with child sex ($P = 0.54$). Disadvantage categories are based on national standardized mean score. Credit: DOI: 10.1097/EDE.0000000000001420

A new study shows that living in a neighborhood socioeconomic disadvantage is a risk factor for adverse weight development in children under school age. Researchers studied the connection between neighborhoods' socioeconomic status and children's weight development from data covering over 11,000 Finnish children.

A new study conducted at the University of Turku, Finland, examined the association between the neighborhood socioeconomic disadvantage and the development of children's body mass index and the risk of overweight from birth to school age. The children's growth data was acquired from a national register of well-baby clinics.

Information on the socioeconomic status of the neighborhood was linked to the participants with address coordinates using the national grid database of Statistics Finland. The database contains information that is based on all Finnish residents on social and economic characteristics at the level of 250 m x 250 m grids.

"The socioeconomic status of the neighborhood was measured with education level, household income, and unemployment rate. The results were independent of the [education level](#), economic situation, [marital status](#) and health of the children's parents, says lead author," Docent Hanna Lagström from the Department of Public Health of the University of Turku.

Living in a less prosperous neighborhood posed a major risk for children to develop overweight by school age in the population-based data, even when the researchers considered factors that can increase the risk of overweight in childhood. These included e.g. mother's type 2 diabetes, mother's smoking, and child's high birth weight. In neighborhoods with a higher socioeconomic status, children weighted more at birth, but their weight development stabilized already by the age of four.

"This could implicate that neighborhoods can offer very different types of development environments for children, and that the risk of overweight grows before [school age](#) in neighborhoods with lower socio-economic [status](#). The results of our research are an important factor to take into consideration in e.g. city planning to ensure that inequality is stopped right from the childhood," says Lagström.

The study is based on 2008–2010 data from the Southwest Finland Birth Cohort (SFBC). The Birth Cohort consists of all children born in the Hospital District of Southwest Finland during those three years. In this study, the participants consisted of the first [children](#) born to the mothers during this time.

The research results have been published as an open access article in the journal *Epidemiology*.

More information: Samuli Rautava et al, Neighborhood Socioeconomic Disadvantage and Childhood Body Mass Index Trajectories From Birth to 7 Years of Age, *Epidemiology* (2021). [DOI: 10.1097/EDE.0000000000001420](https://doi.org/10.1097/EDE.0000000000001420)

Provided by University of Turku

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