

Association of socioeconomic position and childhood obesity in Finland based on administrative register data; the STOP Project

Results and conclusions

- Parental socioeconomic position (SEP) was inversely associated with childhood obesity in Finland based on objective measurements in administrative register data.
- Mother's educational level (12.6% of the total explained variation) and household's disposable income (12.6%) were the SEP indicators that most strongly predicted childhood obesity.
- The impact of father's educational level was somewhat smaller (8.1%) than that of mother's.
- The prevalence of obesity was highest at 11 and 9 years of age among boys and girls, respectively (Figure 1).
- Utilizing register data offers a way to tackle many challenges related to self-reported survey data.
- Identification of the SEP related risk factors and support to families are essential in the prevention of childhood obesity.

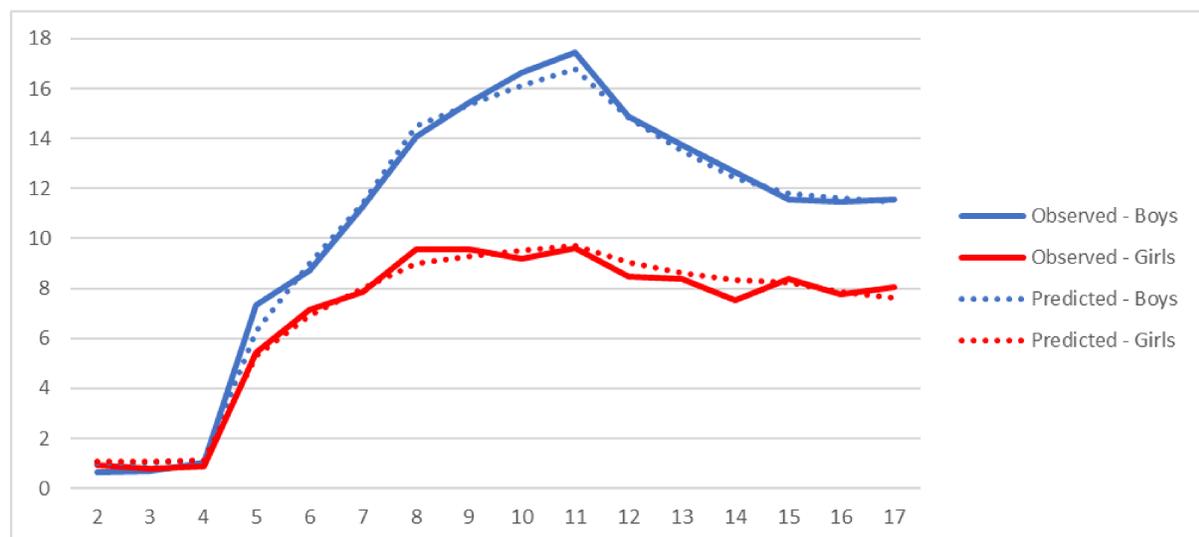


Figure 1. The predicted risk and the observed prevalence of obesity (%) according to the WHO criteria by age and sex in the large register-based data from Finland in 2018.

Background

- Obesity is a globally growing public health challenge also among children.
- In developed countries, the risk of obesity is commonly higher among lower socioeconomic groups.
- Measuring socioeconomic position (SEP), especially income, is challenging in surveys as self-reported information may suffer from reporting, awareness, recall and non-response bias.
- The wide-ranging registers in Finland and the possibility of linking data using the personal identity code give possibility to examining the associations of socio-demographic and socio-economic characteristics of children and their families and the risk of childhood obesity.

Objectives

To utilize administrative register data on several SEP indicators as well as measured height and weight to identify the strongest predictors of SEP

of the parents on the risk of obesity among the 2–17-year-old child population in Finland.

Methods

- Data for all children who had visited child health clinic or school health care in 2018 were extracted from the National Outpatient Register on Primary Health Care Services (n=387623, coverage 40% in 2018).
- Obesity was defined according to the WHO criteria based on objective measurements of height and weight.
- SEP indicators were obtained from Statistics Finland for both parents living in the same household with a child. These included parents' age, native language, country of birth, marital status, classification of socioeconomic group, educational level of highest qualification /degree, educational field of highest qualification/degree, occupational status, employed/unemployed, code of occupation, type of education for adolescents, size of family, size of household-dwelling unit, number of children in the family and information

whether there are children under 3, 7, 14 and 18 years old in the family, family type, municipality group of municipality of domicile according to the 2016 regional division, region according to the 2016 regional division, mode of housing, living space, household's disposable money income, earned total income in state taxation, total capital income, housing benefits and debts in total.

- Boosted regression model using 10-fold cross validation was used to analyze the contribution of SEP to obesity using training dataset on 155479 non-related children.

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