



.....

Determinants of Eating Behaviour in European Children, Adolescents and their Parents

Overview & Key Findings

Wolfgang Ahrens (I.Family coordinator)
University of Bremen &
Leibniz Institute for Prevention Research & Epidemiology – BIPS
- on behalf of the I.Family consortium -

Deputy coordinators: Alfonso Siani & Iris Pigeot



This project has received funding from the European Union's
Seventh Framework Programme for research, technological
development and demonstration under grant agreement No. 266044



Aim: contribute to reducing burden of nutrition-related diseases

- Understand interplay between **barriers and main drivers** of a healthy food choice
- Identify **predictors of unnecessary weight gain and cardio-metabolic risk** by linking them to diet, physical activity and interacting factors
 - Focus on child and his / her family
 - Assess how different factors affect children as they grow up
- Develop and convey **strategies to induce changes** towards a healthy behaviour



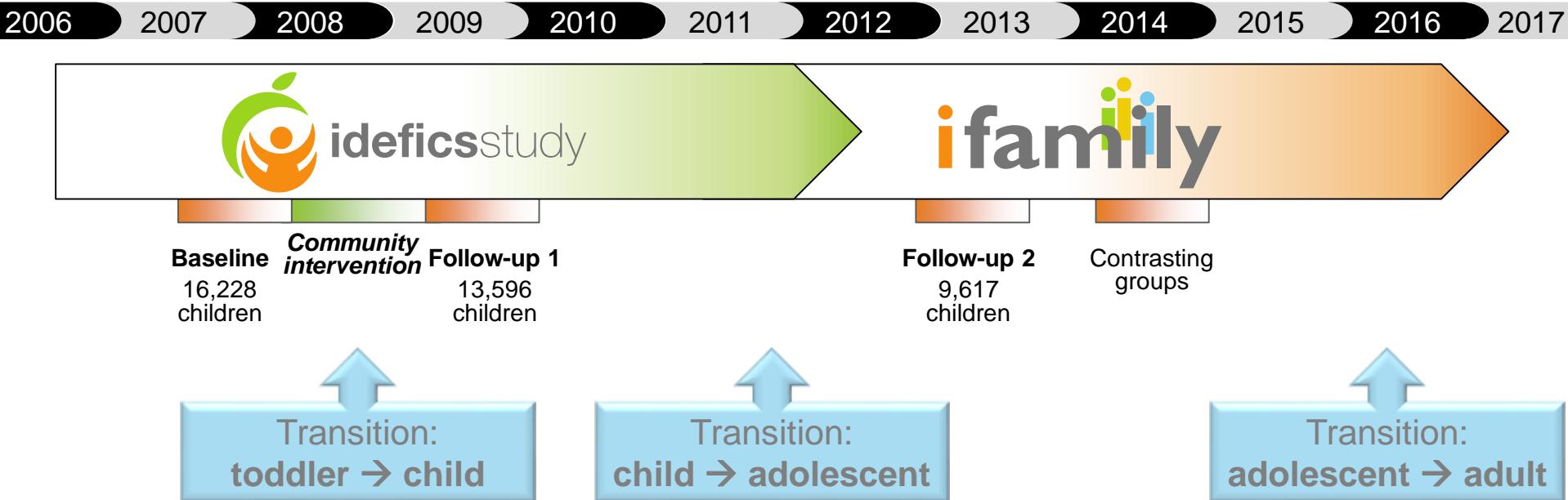
Partners



1. Strovolos, Cyprus
2. Ghent, Belgium
3. Copenhagen, Denmark
4. Tallin, Estonia
5. Helsinki, Finland
6. Bremen, Germany
7. Pécs, Hungary
8. Avellino, Italy
9. Milan, Italy
10. Utrecht, Netherlands
11. Palma de Mallorca, Spain
12. Zaragoza, Spain
13. Gothenburg, Sweden
14. Bristol, United Kingdom
15. Lancaster, United Kingdom
16. Andover, United Kingdom



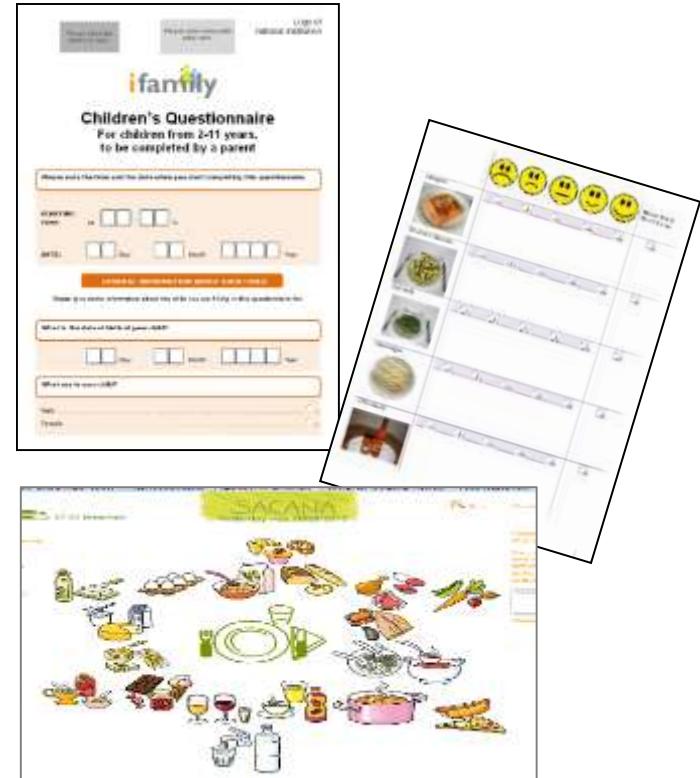
Timeline of recruitment and follow-up IDEFICS – I.Family cohort, starting with 2-10 year olds





Questionnaires & examinations 1

- Questionnaires (parent + child)
 - Social factors, lifestyle, peers + physical activity
 - Food frequency, preference, eating behaviour
 - Medical history
 - Family members + household
- 24-hour dietary recall
 - Web-based **dietary recall**
- Physical activity
 - **Accelerometer:** 7 days
 - **Built environment:** GIS + GPS



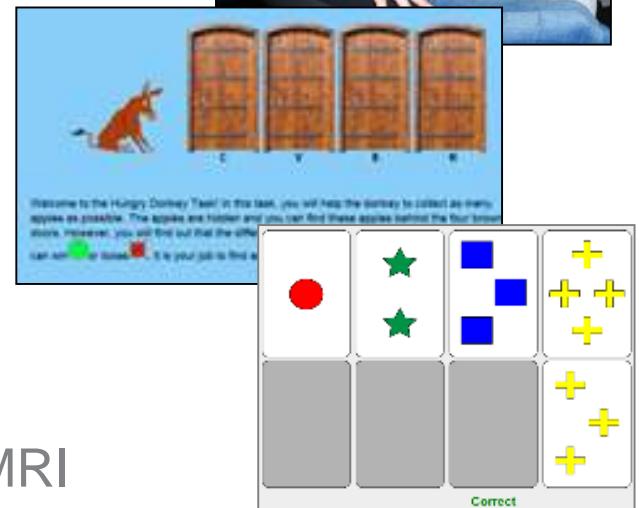


Questionnaires & examinations 2

- Physical examinations
 - Anthropometry + blood pressure
 - Bone health: ultrasound

- Biological markers
 - Blood, saliva + urine

- Specific tests in subgroups
 - Sensory taste perception
 - Neuropsychological tests: impulsivity
 - Brain mechanisms of food choice: fMRI





Prevalence of childhood overweight/obesity (2-10 yr)





Dietary behaviour



- Children with **low socio-economic background**
 - Persistently **unhealthier dietary profiles** over a 2-year period
- Dietary patterns rich in fruits & vegetables, wholemeal cereals, and low in animal products
 - **Lower risk of overweight/obesity**
 - **Less 2-year weight gain**



Sleep and weight status

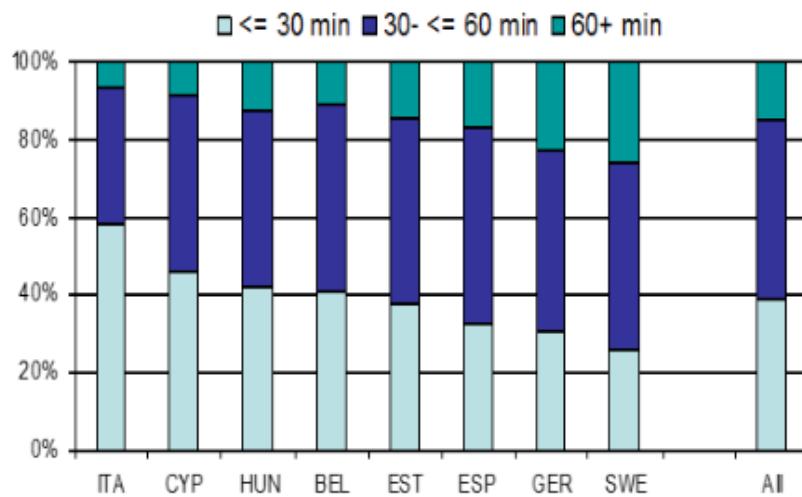


- **Short sleep duration**
→ being overweight – particularly in primary school children
- Inverse relationship between sleep duration and BMI
→ mainly explained by inverse association between sleep duration & fat mass
- Insulin may explain part of this association, in particular in heavier children



Physical activity (PA) and overweight (OW)

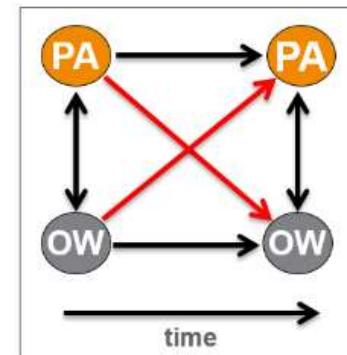
Few children meet physical activity guidelines (60min MVPA/day)



Causality goes both ways

Higher or increasing fat mass
→ decline in MVPA

Just 10 minutes more MVPA per day
→ prevent excess weight gain

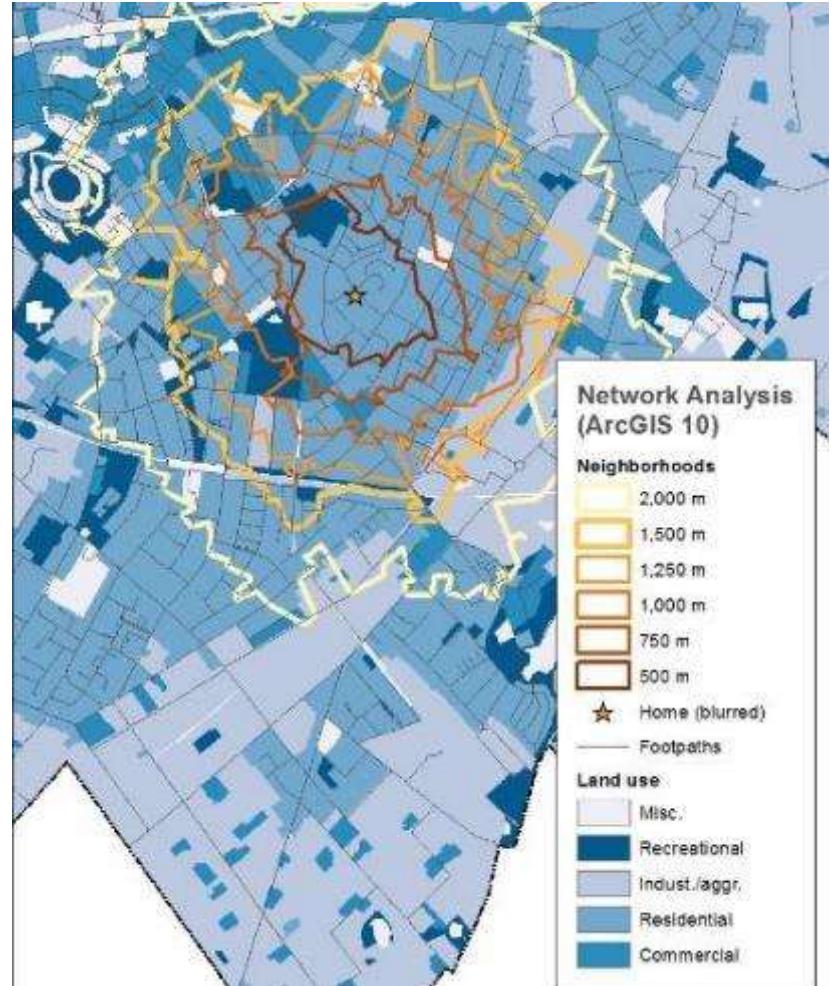


MVPA = Moderate to Vigorous Physical Activity



Built environment and physical activity

- **Physical activity-friendliness** of the built environment (“moveability”)
→ more MVPA of 596 primary school children in the German study region
- **Playground density** and density of playgrounds and parks combined
→ positive effects on MVPA



MVPA = Moderate to Vigorous Physical Activity



Media consumption

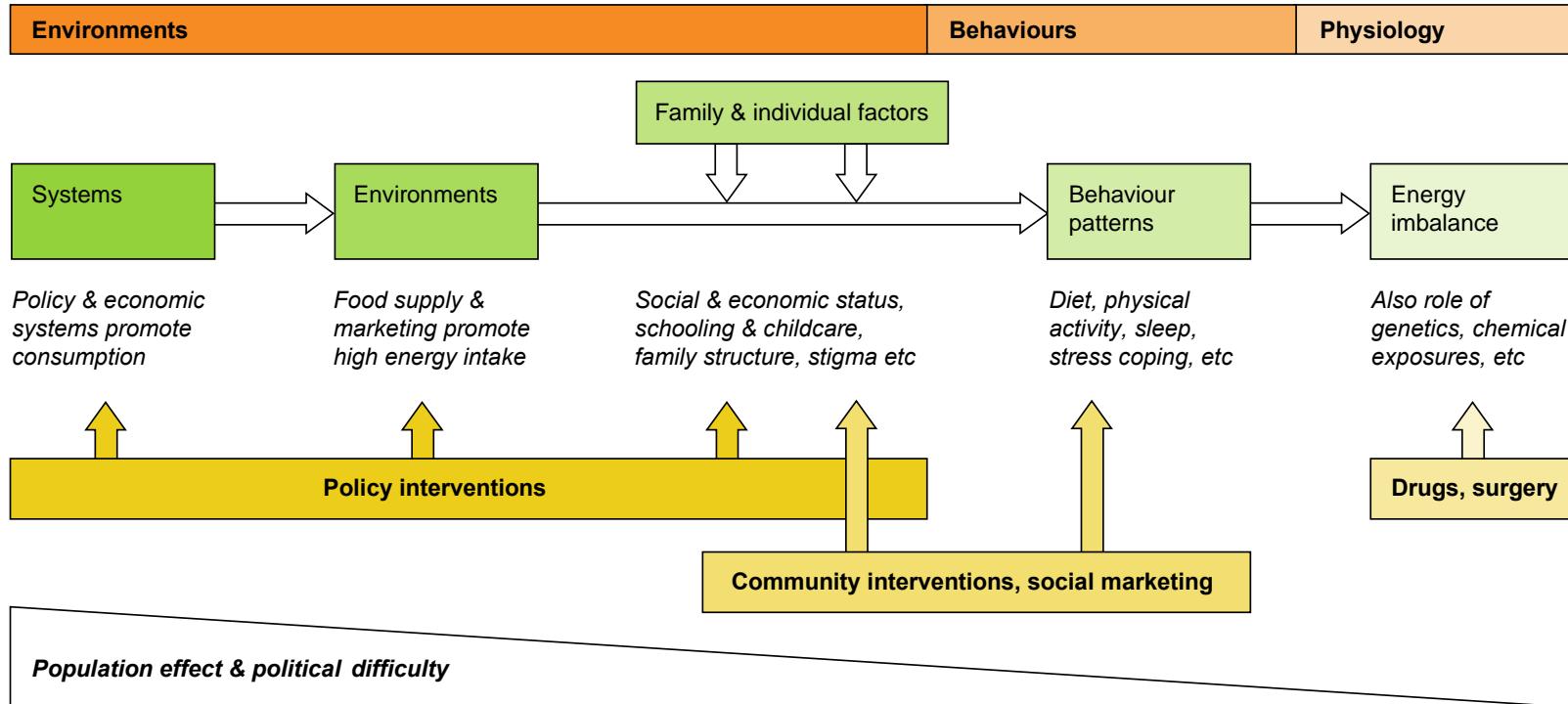


- **TV exposure**
 - preference for sugary/fatty foods
 - followed by higher consumption of sugar-sweetened beverages
 - increased risk of overweight/obesity
- One-third of children exceeded screen time recommendations (max. 2h/day)
- **Exceeding sedentary guidelines**
 - increased risk of high blood pressure
- Watching **TV during meals**, having a TV in the **child's bedroom** and watching TV **more than 1h/day**
 - being overweight/obese



Swimming upstream

The causes of obesity – and the causes of the causes



Adapted from: Swinburn et al. The global obesity pandemic: shaped by global drivers and local environments. Lancet. 2011; 378: 804-14



“Childhood obesity undermines the physical, social and psychological wellbeing of children and is a known risk factor for adult obesity and non-communicable diseases. There is an urgent need to act now to improve the health of this generation and the next.”

REPORT OF THE COMMISSION ON

ENDING CHILDHOOD OBESITY



WHO 2016



Funded by the EC, FP 7, Project No. 266044 - Building on





ENDING CHILDHOOD OBESITY – strategic objectives



No single intervention can halt the rise of the growing obesity epidemic. To successfully challenge childhood obesity requires

- addressing the obesogenic environment
- as well as critical elements in the life-course.



Thank you!



Funded by the EC, FP 7, Project No. 266044 - Building on

