Food habit formation and breaking in early childhood

Sylvie Issanchou
Institut National de la Recherche Agronomique
Dijon, France

www.habeat.eu

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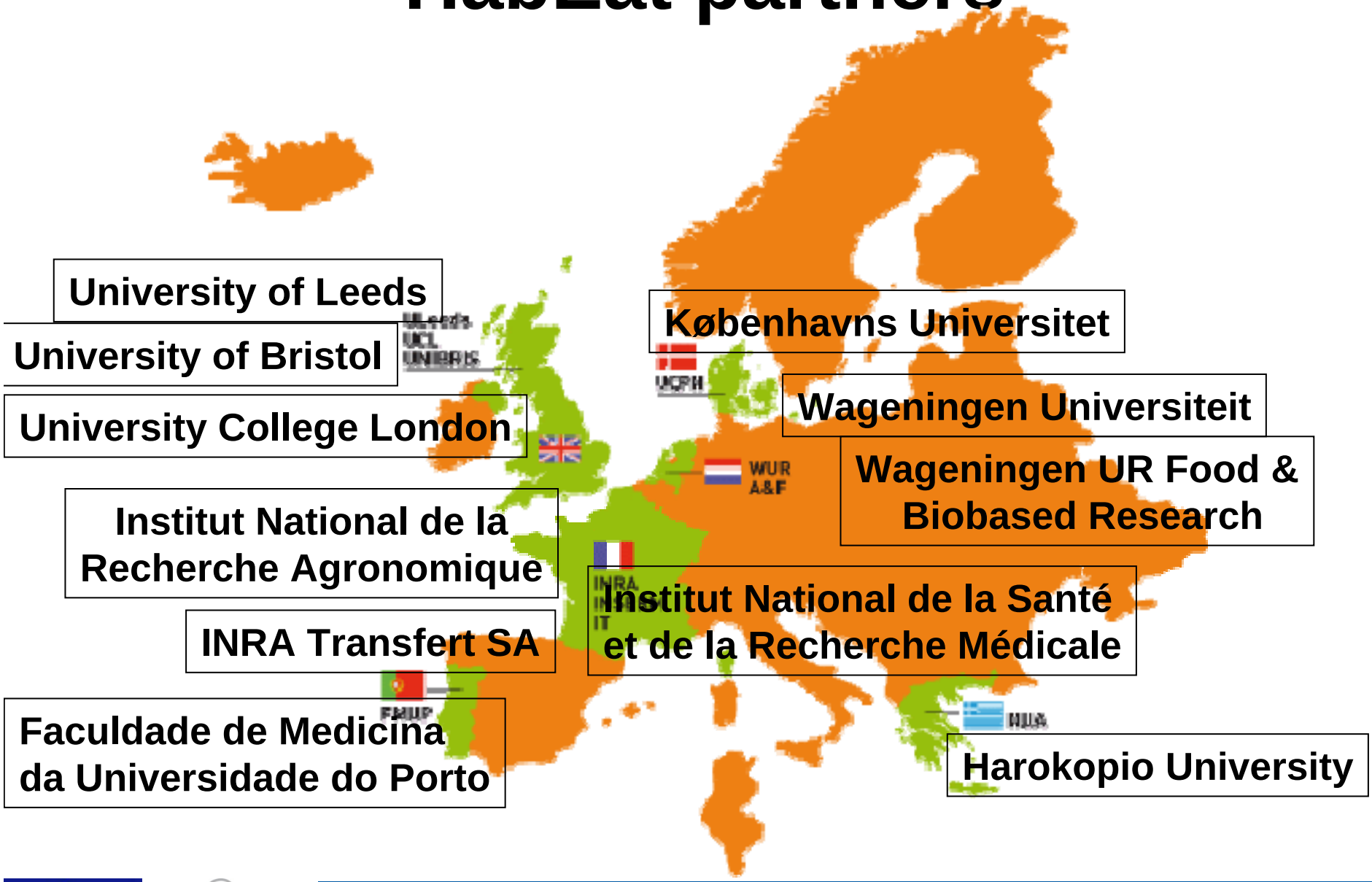
HabEat partners



Background

- **Studies on growth development and risk of overweight have permitted to identify critical periods:**
  - **first 6 months**
  - **after 3 years**
  - **'silent' period between 6 mo and 3 yrs**
- **Need to consider child eating behaviours and parental feeding practices during the first 3 years**

Background

- **Diets of young children in many European countries are not ideal, in particular because they contain not enough fruit and vegetables**
- **Some food habits and eating patterns develop early in infancy**
- **Food habits may have an impact on health in later life (diabetes, obesity, heart problems..)**

Overview

- **Habit can be defined as a behavioural pattern or routine which is repeated on a regular basis**
- **Core concepts of food habits:**
  - **The 'WHAT' i.e. the qualitative dimension**
  - **The 'HOW MUCH' i.e. the quantitative dimension**
  - **The 'WHEN' i.e. the temporal dimension**
  - **The 'HOW' i.e. the contextual dimension**
- **Factors important in the formation and breaking**
  - **Characteristics of the child (food temperament)**
  - **Characteristics of the parent/caregiver (parenting style)**

Aims

- **Understand better**
  - **how food habits are formed**
  - **how food habits can also be changed**

in infants and young children (< 5 years)

- **Identify critical periods**
- **Identify critical factors**
- **Exploring of key learning mechanisms**
- **Exploring new strategies for breaking habits**

Approach

- **The epidemiological work will exploit existing data from several cohorts**
  - **ALSPAC in the United-Kingdom (Dr Pauline Emmett, University of Bristol)**
  - **Eden in France (Dr Marie-Aline Charles, INSERM)**
  - **Europrevall in Greece (Dr Yannis Manios, Harokopio University)**
  - **Generation XXI in Portugal (Dr Carla Lopes & Dr Pedro Moreira, Faculdade de Medicina da Universidade do Porto)**
- **The experimental work will contain two sections**
  - **key mechanisms of learning : children from the age of 6 months and up to 3 years**
  - **new strategies for breaking habits: children beyond 3 years and up to 5 years**

Focus

- On the qualitative dimension of food habits
- Acceptance and Consumption of Fruits and Vegetables
  - Play a crucial role in our diets because of their health-related properties
  - Most young infants are willing to taste and eat fruits & vegetables but this willingness decreases as the child ages
  - Children quite often do not like to eat vegetables due to flavour or texture

Investigations

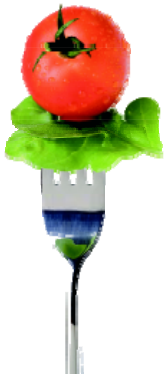
- **WP 1 (Dr Marie-Aline Charles, INSERM)**
  - **Relate food habits, especially fruit and vegetable intake later in childhood by**
    - **infant eating behaviour (e.g. to be always hungry, to refuse most new foods)**
    - **Maternal feeding practices towards child's eating (e.g. to breastfeed during a long period, to propose foods other than milk early in life, to be worried that the child do no eat too much some foods and too little other foods)**
  - **Examine the link between weight and height of the children at various ages and different food habits**

Investigations

- **WP 2.1 (Dr Lucy Cooke, University College London)**
  - **determine whether exposure to a wide variety of vegetables and fruits early in life will prevent the observed decline in liking and intake at a later age**
- **WP 2.2 (Pr Marion Hetherington, University of Leeds)**
  - **examining specific learning mechanisms involved in the development of vegetable liking and acceptance in infants and young children aged 6m to 36m**

Investigations

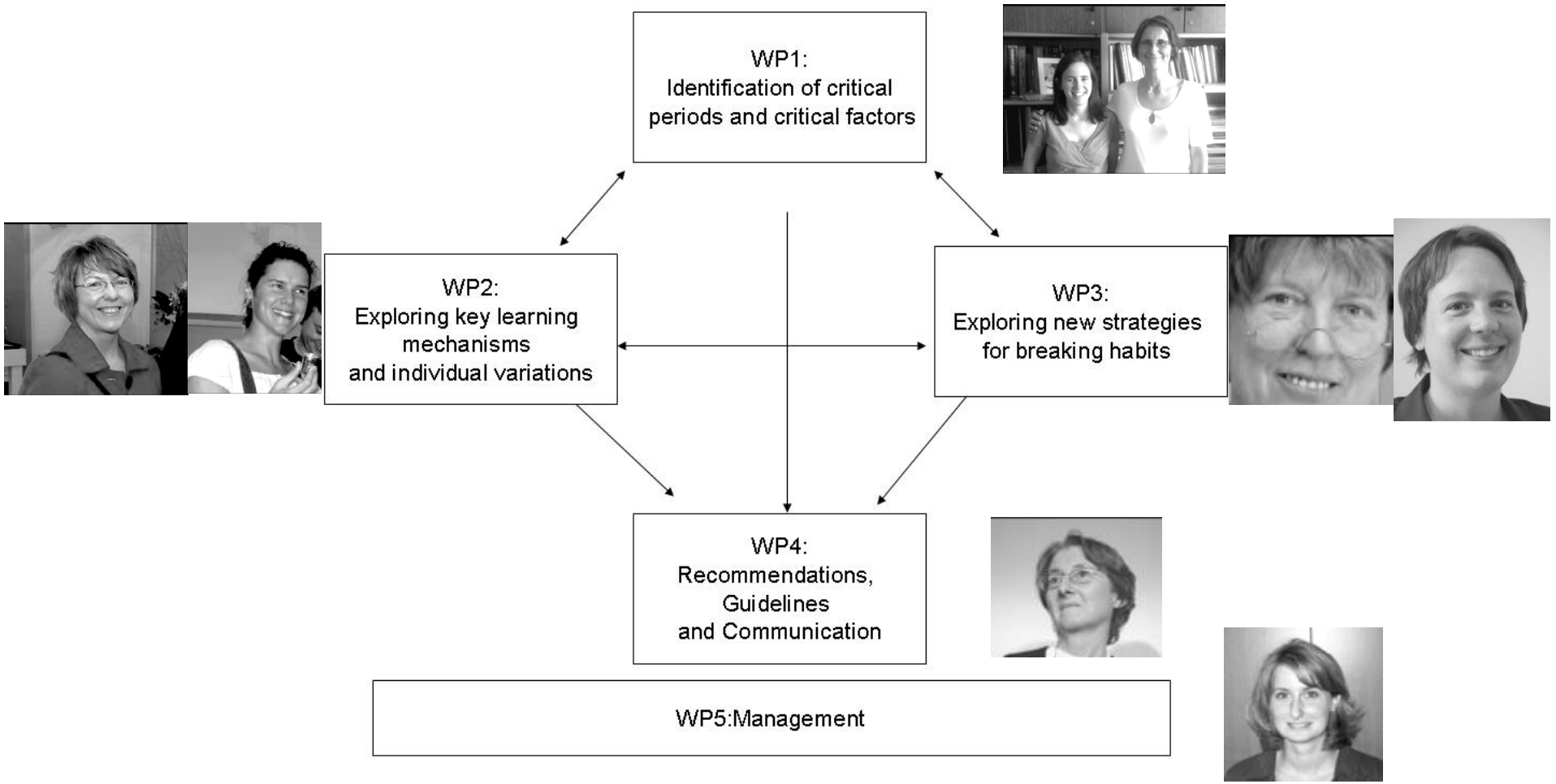
- **WP 3.2 (Dr Per Møller, Københavns Universitet)**
  - **how variation in sensory characteristics such as texture and flavour and repeated exposure can induce acceptance of originally disliked foods**
- **WP 3.3 (Dr Jos Mojet and Dr Valesca Kooijman, Wageningen UR Food & Biobased Research)**
  - **Exploration of social learning techniques such as**
    - **imitation of a teacher or an idol**
    - **freedom of choice of vegetables**
    - **experiencing food preparation and eating self-prepared food**



Investigations

- **WP 3.1 (Dr Sophie Nicklaus, INRA Dijon)**
  - **Focus on the quantitative dimension**
  - **Determine among 2-5 years old children the proportion who have difficulties to self-regulate their food intake**
  - **What are the factors influencing the ability to self-regulate food intake**
    - **age, gender, BMI, parenting style**
  - **Intervention to teach children to focus on their internal cues of hunger and fullness**
    - **Johnson, S. L. (2000). Improving preschoolers' self-regulation of energy intake. Pediatrics, 106(6), 1429-35.**

Structure of the HabEat project



Key outputs of HabEat (WP4)

- **Recommendations in parental practices for promoting healthier food habits in infants and children**
- **Guidelines**
  - **for policy makers and stakeholders (paediatricians, maternity clinics, child care centres, food industry…)**
  - **on the most effective advice to communicate to different target populations aimed at**
    - **the formation of healthy food habits for infants and children,**
    - **the best way to change poor habits to healthy habits**

Future

- **Perinatal determinants of obesity**
  - **Nutritional and metabolic maternal factors during pregnancy**
  - **Mother's food intake during breastfeeding**
  - **Silent period for growth: really 'silent'?**
    - **development of adipose tissue**
    - **why genetic factors would have an effect at 3 months and not at 2 years?**
  - **Possible influence of food contaminants (xeno-hormones, pesticides) on factors related to growth and food behaviour :**
    - **adipogenesis and BMI**
    - **the development of organs related to the taste perception (taste buds, salivary glands)**
    - **taste preference and food choice modulation**

Future

- **Preference for sweet/fatty and salty/fatty foods**
  - **When are these preferences formed?**
  - **Which factors impact on the development of such preferences?**

Future

- Obesity is multi-factorial
- Need to develop further multidisciplinary research
- Need to combine different types of approaches
  - Work on humans
    - Cohort studies
    - Experimental studies with follow-up
    - In both cases, need to include individuals from different social backgrounds
  - Experimental work on animal models and cell cultures

Many thanks for your attention

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Questions???