

## **APPLIED SENSORY RESEARCH IN THE FIELD OF OBESITY PREVENTION AND THERAPY**

The Laboratory for Sensory and Health (HPL) comprises three research areas which are addressed through interdisciplinary cooperation:

- i) Nutritional Research: Testing methods for the analysis of sensory perception parameters / Examining anthropometric and biomedical markers associated with metabolic programming in children / Examining possible inter-relationships between the various anthropometric, sensory and biomedical parameters involved in the metabolic programming of children.

The use of both bio-impedance analysis and densitometry (PEA POD® and BOD POD®) gives the possibility to determine the body composition of children and adults with precision, which then allows specialists to draw conclusions about their nutritional state.

- ii) Consumer and Sensory Science: HPL develops product concepts that are set up in response to specific needs and to examine the special dietetic requirements of the target group. Product concept's practical feasibility, packaging design, sensory evaluation and the accompanying information can be evaluated, followed by the deployment of new technical processes, such as the above mentioned Facial Analysis Coding System and eye-tracking (Tobii® Eye Tracker X2-60).
- iii) Health Promotion by teaching and learning concepts: Developing and evaluating sensory-oriented training concepts within game-based learning concepts allow to sensitize specific target groups (e.g. children) to use all their senses when eating and thus to be aware of how and what they eat

Additionally, data can be recorded with the use of innovative technical aids, such as an advanced 3D Facial Analysis Coding System (The Observer® XT) designed to determine taste preferences in infants and in adults. Additionally facial expressions: happy, sad, angry, surprised, scared, and disgusted can be analyzed automatically with the software FaceReader™.

### **Reference publications:**

Neuhold B., Peterseil M., Gunzer W. & Maunz S. (2014) Frühkindliche Geschmacksprägung / Aktuelle Forschung im Health Perception Lab. ErnährungsUmschau 7/2014, M393-M395.

Peterseil, M., Gunzer, W. & Fuchs-Neuhold, B. (2016) Einflussfaktoren auf die Geschmacksentwicklung von Säuglingen. Pädiatrie und Pädologie, 51:156-161, DOI 10.1007/s00608-016-0396-2.

Wallner, M. & Fuchs-Neuhold, B. (2016). (Ge)Wichtiger Geschmack? Zusammenhang der Geschmackswahrnehmung mit der Gewichtsentwicklung ab der Kindheit, Nutrition-News, Ausgabe 3/2016.

Gunzer, W. (2017). Changes of olfactory performance during the process of aging - psychophysical testing and its relevance in the fight against malnutrition. J Nutr Health Aging (2017). doi:10.1007/s12603-017-0873-8.

### **Reference links:**

[www.healthperceptionlab.at](http://www.healthperceptionlab.at) / [www.youtube.com/watch?v=1yFMKO\\_\\_cxs&feature=c4-overview&list=UUKxriNXDjUpXLkH7N4IA](https://www.youtube.com/watch?v=1yFMKO__cxs&feature=c4-overview&list=UUKxriNXDjUpXLkH7N4IA)

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