Bachelor and Master projects 2023

Bachelor or Master thesis projects are usually **empirical** (quantitative and/ or qualitative). They thus require students to be involved in study planning and data collection as well as to analyse the collected data semi-autonomously. Although previous experience in conducting behavioural studies is desirable, it is not a prerequisite. However, students should be willing to acquire the necessary skills. They will be supported in the necessary steps by the supervisor and the group. The thesis can be **written in English or German**.

Please note that the thesis will also involve preparatory work (e.g., pre-registration of the study plan, obtaining ethical approval). It is thus advised to get in touch at least **eight months before the projected submission date** to ensure that the project can be completed in time.

If you are interested in one of the following topics, please fill in the application form and email it to Jun.-Prof. Dr. Laura M. König.

Applications close on 15 February 2023. A decision will be made after an interview. The interview will take place within 2 weeks after the application deadline.

If you have no experience in analysing quantitative data, it is recommended that you attend the one of the statistics modules that we offer in the B.Sc. Food and Health Sciences (German) or M.Sc. Food Quality and Safety/ M.Sc. Global Food, Nutrition and Health (English), which are offered in the winter semester.

Topic A: Comparing formats for feedback on diet: Mixed methods study using Ecological Momentary Assessment and a Fake Food Buffet

Dietary self-monitoring is a key predictor of success in behavioral weight loss programs. To support greater adherence to self-monitoring and to help individuals interpret their own self-monitoring data to set effective behavioral goals, participants are typically provided with interventionist feedback. Indeed, some research has indicated that feedback is effective by promoting self-monitoring engagement for weight loss. The way in which feedback is presented may influence intentions and behavior change. For instance, one might speculate that the commonly used numerical feedback on energy or macronutrient intake might fail to induce the desired changes since people often fail to estimate energy or macronutrient content correctly. Examining perceptions of various forms of dietary self-monitoring feedback (e.g., graphical vs. numerical) as well as the effect of feedback on future eating behaviors would provide necessary insight to inform future research on the optimal design for self-monitoring feedback.

Methods: Fake Food, Ecological Momentary Assessment, qualitative interviews

We are looking for: up to 2 students to assist with data collection. Data analysis and writing will be performed separately.

Project start date: April/ May 2023 – data collection will start immediately

Language: The study will be conducted in German.

Suggested readings:

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, *50*(2), 248-287.

Burke, L. E., Wang, J., & Sevick, M. A. (2011). Self-monitoring in weight loss: a systematic review of the literature. *Journal of the American Dietetic Association*, *111*(1), 92-102.

Topic B: Combining continuous glucose monitoring and Ecological Momentary Assessment to assess eating behaviour in daily life

The smartphone-based recording of eating behaviour in everyday life offers many advantages: Among other things, it allows eating behaviour to be mapped in real time and in the everyday life of the test persons and increases the quality of the data, as distortions due to memory effects are minimised. Smartphone-based dietary recording is therefore becoming increasingly popular in nutrition research. However, one difficulty with the use of smartphone-based dietary recording is that not all meals may be recorded by the subjects. There are many reasons for this, including subjects reporting that they forgot to record because they were distracted while eating, or that they intentionally skipped recording because they were afraid to record in front of others. Unrecorded meals limit the validity of the data. However, it is currently not possible to quantify exactly how serious the problem is, as it has only been quantified via self-reports by the test persons. These self-reports, in turn, can also be affected by bias. Objective methods are therefore needed to quantify the problem of unrecorded meals. This lays the foundation for developing measures to increase the proportion of recorded meals in smartphone-based dietary recording and thus improve data quality. In this study, we want to test if continuous glucose monitoring is suitable to provide information about missed recordings in Ecological Momentary Assessment.

We are looking for: up to 2 students to assist with data collection. Data analysis and writing will be performed separately.

Project start date: April/ May 2023 – data collection will start immediately

Language: The study can be conducted in English or German.

Suggested readings:

König, L. M., Van Emmenis, M., Nurmi, J., Kassavou, K., & Sutton, S. (2022). Characteristics of smartphone-based dietary assessment tools: A systematic review. *Health Psychology Review, 16*(4), 526-550. https://doi.org/10.1080/17437199.2021.2016066.

Ziesemer, K., König, L. M., Boushey, C. J., Villinger, K., Wahl, D. R., Butscher, S., ... & Renner, B. (2020). Occurrence of and reasons for “missing events” in mobile dietary assessments: results from three event-based ecological momentary assessment studies. JMIR mHealth and uHealth, 8(10), e15430.

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