The missing links: life-logging and design features of alcohol-related smartphone applications

An extended update and evaluation from an interdisciplinary communication design perspective

Summary of the research plan

(Background) The increasing use and application of various forms of mobile technology in the addiction field in research, treatment and prevention is lagging behind changing paradigms and frameworks of health care systems in general: Top down interventions are replaced by *interactive* patient-driven models and self-tracking by pro-active users achieving individual objectives. However, research on the potential of the use of smartphone apps and related needs *from a user perspective* is only at the beginning in the addiction field. Researchers have developed a range of apps, but few have explicitly made the connection with the popular self-tracking app genre, instead focusing on data collection or brief interventions. Furthermore design criteria have only been marginally included in previous, now out-dated, reviews even though the use and acceptance of apps is mainly contingent upon user-friendly design. A systematic interdisciplinary approach combining both, know-how from addiction research and communication design, has not been sufficiently applied so far to tap the empowering potential of mobile technologies.

(Objectives) The interdisciplinary study will contribute to the evidence based improvement of alcohol-related smart phone apps with a special focus on self-monitoring. It pursues a threefold objective: Firstly, to establish an up-dated inventory and content-based typology of alcohol-related intervening smart phone apps drawing upon the methodology of earlier review studies, which did not include French and German language apps; also no overview for Switzerland is available so far. Secondly, a communication design analysis is performed and a checklist developed: This addresses the need for quality assessment criteria and life-logging system design guidelines. Thirdly, the preliminary results will be presented and finalized in a dialogue with representatives of the research, treatment, prevention and design communities at a consensus day meeting.

(Methods and implementation) The compilation of an inventory and a *critical review and inventory of apps addressing alcohol use*, will be based on (a) a partial replication of the review conducted by Cohn et al. (2011), (b) a tentative application of the general (Health) Mobile App Rating Scale (MARS) (Stoyanov et al 2015), (c) on the content analysis of alcohol-related smartphone apps targeting young people (Weaver et al. 2013) and finally (d) on the results of a preliminary, exploratory search conducted by the applicants. After establishing a contentbased typology of the apps, typical representatives of each group will be subject of a critical analysis based on established criteria of Interaction Design.

(Relevance) Providing evidence-based guidelines to inform the evaluation and development of appropriate tools/apps, which are user friendly and allow for individual goal setting and monitoring (with and without collateral support) will be essential to reach the majority of untreated populations and facilitate self-change.

This exploratory study and app development will also provide the baseline for a *follow-up project* addressing *longterm user experience* and a group evaluation of the impact of various types of self-monitoring and decisional balancing as core process of change.