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Editorial: Computational Commensality

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Editorial on the Research Topic
Computational Commensality

Introduction

The Research Topic on Computational Commensality aims to gather recent achievements in commensality-related research with a particular focus on (although not limited to) computational approaches, to trigger novel interdisciplinary research directions. On the one hand, the behavioral, psychological, and sociological studies on "traditional" commensality may become an inspiration for researchers in Human-Computer Interaction to create systems facilitating commensality experiences. On the other hand, technology can help to address research questions on traditional commensality, for example, by providing tools for accurately and objectively quantifying human behaviors, and to carry out experiments in highly controlled conditions. Last but not least, technology can enable novel forms of commensal experience through, for example, tele-dining, the use of social networks, or the sensorial augmentation of food.

The RT received a total of 11 contributions, 8 of which were accepted for publication. Half of them were published in Frontiers in Psychology and the other half in Frontiers in Computer Science. We briefly describe them in the sections below.

Contributions

The social and individual functions of commensality have been the focus of much social psychological research in recent decades. Eating together helps the building up and strengthening of social relationships, fulfilling the individual need for connectedness and inclusion. However, drawbacks also have been documented in terms of excessive and unhealthy food consumption on social occasions (i.e., social facilitation of eating). From a social-psychological point of view, applying technology to eating could provide

significant advantages. On the one hand, the recent lockdown experience due to the pandemic showed that technological tools could provide individuals who have to eat alone a vicarious satisfaction of social connectedness needs. In addition, as Wang C. et al. have shown in their paper, this could also limit the tendency to consume more unhealthy food when eating together. On the other hand, technology could greatly improve the ability to communicate effectively with a range of audiences to promote healthy and sustainable lifestyles.

The contribution of Catellani et al. testifies the benefits of the collaboration between social psychologists and artificial intelligence experts. Based on their experiment, they propose a model to predict the potential effects of tailored persuasive message delivery by observing the psychosocial antecedents. This paper provides important insight into combining message personalization and the need to reach many people to make dietary recommendations effective.

Higgs et al. provide evidence of a mismatch between people's self-perceptions of how they eat in a social situation and how they actually behave. Specifically, they found that participants are unaware of the social facilitation of eating regular meals. Raising awareness of this phenomenon could assist in the development of new solutions to increasing the intake of undernourished populations.

Online eating experiences are the focus of the work of Ceccaldi et al. They created an audio-video dataset of pairs of friends and relatives eating together through a video-conferencing tool. Participants also filled out two questionnaires to measure their online experience in general and from the point of view of commensality, providing their opinion about the shortcomings of currently available technologies and expectations from future ones.

The following papers focus on different aspects of remote (i.e., through video) eating experience.

In this line, the paper by Wang C. et al. nicely tested a potential benefit of such experience: the one of balancing the need for social interaction with that of limiting the unhealthy eating implied by social dinners. They showed that, even though the experience of eating together through the help of technology is still rare, participants perceived cloud-based commensality as a situation able to alleviate feelings of loneliness without involving increased consumption of (unhealthy) food.

Wang J.-Y. et al. investigated whether meal similarity in a remote dining experience influences eating behavior using behavioral (i.e., interpersonal synchronization) and subjective (i.e., questionnaires) measures. Two experimental conditions (similar Vs. different meals) were compared in a within-subject experiment. When eating the same meal during a video conference call, participants ate faster, were more synchronized with their partners, and reported a greater sense of togetherness.

Bulsing and Salmon studied the social modeling of healthy food intake using a video paradigm. When performing an unrelated task, participants were shown a video of another person performing the same task while consuming, depending on the experimental condition, a small or large portion of fruit. According to the results, participants adapted their subsequent intake of the same fruit to that of the person shown in the video.

The remaining papers discuss whether technology can/should replace or not human companions at the table.

Nicolau i Torra et al. used a cultural probe method to investigate the use of information and communication technology (ICT) among young adults who eat dinner alone. Participants completed the tasks of the cultural probe over 7 days. Thematic analysis was used to analyze the qualitative data. Despite the stigma attached to eating alone, the results of this study indicate that eating alone can also be a pleasurable, relaxing experience, free from social norms, and with the freedom to choose one's preferred food. ICT's contribute to this by offering entertainment and distracting from negative aspects of eating alone, such as feelings of loneliness. It was also noted that eating alone should be balanced by enjoying meals with others.

Niewiadomski et al. advocate using social robots as eating companions, e.g., for people who suffer from eating alone. The authors describe a prototype of such a kind of robot. According to an evaluation study, users enjoyed the experience with a robot companion and preferred it over eating alone. The paper also enumerates several open questions and lists challenges that creators of such technology need to address in the future.

Next steps and future directions

From a socio-technological perspective, we could speculate about how novel technologies may eventually become part of people's eating practices. For example, the work by Nicolau i Torra et al. shows how current technologies (i.e., smartphones and tablets) become part of people's existing eating practices, in this case, during solo-dining. This raises questions about how more novel technologies, such as commensal eating companions, could potentially also integrate into people's existing practices. Whether or not such novel technologies become a 'success' may depend not only on the level of technological advancement *per se*, but also on how they offer opportunities for being integrated into existing eating practices. Future research may address such questions through longitudinal studies as well as qualitative research approaches.

Interactive technologies may not just be end-point solutions (e.g., to guide healthy eating choices) but could also serve as tools to foster research on specific aspects of eating. For example, Artificial Commensal Companions might perhaps be used to influence people to make healthy food choices, but this technology could also serve to highlight the notion that people are indeed sensitive to social cues when making food choices.

Overall, the papers presented in the Research Topic illustrate a large spectrum of research questions related to Computational Commensality. Some well-known effects on "traditional"

commensality seem to be valid in remote conditions (e.g., impact on food intake). However, the advantages of eating alone in the company of technology shed new light on the role of commensality in modern society. The majority of the papers focus on innovative forms of commensality by introducing or evaluating the role of technological components (e.g., robots, video-conference, ...). These works are interesting initial examples of research at the intersection of Psychology, Nutrition, and Computer Science that will need to be strengthened in the future.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Conflict of interest

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