



Citation for published version:

Liu, JCJ & Ellis, DA 2021, 'Editorial: Eating in the age of smartphones: The good, the bad, and the neutral', *Frontiers in Psychology*, vol. 12, 796899. <https://doi.org/10.3389/fpsyg.2021.796899>

DOI:

[10.3389/fpsyg.2021.796899](https://doi.org/10.3389/fpsyg.2021.796899)

Publication date:

2021

Document Version

Peer reviewed version

[Link to publication](#)

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Editorial: Eating in an Age of Smartphones: The Good, The Bad, and the Neutral

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Key words: Smartphones; digital health; screen time; obesity; appetite regulation; weight regulation

Worldwide, an estimated 6.4 billion individuals own a smartphone – a cell phone that provides communication and computing functions through an operating system (Statista, 2021a). The average smartphone user now engages with their device shortly after waking up and will spend 3-4 hours a day interacting with a variety of apps (Andrews et al., 2015; Nielson, 2020; RootMetrics, 2018). This frequent use, coupled with an ever-expanding range of social functions, means that devices are readily available throughout the day including while eating. Beyond being a potential distraction however, such functionality also allows for thoughts or food-related behaviors to be captured and shared (La Marra et al., 2020; Teo et al., 2018). Unlike single function screen-based technologies of the past, [smartphones are not only changing how we live](#), but also how we conduct research in the digital age. Therefore, we commissioned a Research Topic to understand how smartphones are transforming the eating experience.

Recognizing the timely nature of this topic, we invited researchers to specifically document ‘the good, the bad, and the neutral’ aspects of eating in the age of smartphones. While a large body of research has described how previous devices (e.g., televisions) influence eating behaviors (Martin et al., 2009; Zhang et al., 2016), [only a handful of studies prior to this collection focused directly on smartphones \(e.g., Gonçalves et al., 2019; Yong et al., 2021\)](#). The curated collection responds by articulating how smartphones have taken their place in an obesogenic environment. While articles span both research papers and commentaries, each describes how smartphones might alter appetite regulation or increase the risk for weight gain. These collectively demonstrate that, as with the impact of other digital technologies, changes to eating behavior may not be unique to the technology itself. Instead, impacts can often be aligned with well-established psychological processes that [regulate everyday activities](#) (Ellis, 2020).

First, in terms of research papers, Tebar et al. (2021) surveyed adults on their use of smartphones, televisions, and computers during the COVID-19 pandemic. Compared to participants whose phone use did not change throughout this period, those who reported greater phone use were 1.5 times more likely to report an increased consumption of

sweetened food (Tebar et al., 2021). This pattern was also observed amongst participants who engaged in more television-viewing, but not for participants who reported increased computer use. In a separate paper, Lopez and colleagues (2019) examined the weight status of pre-adolescent children aged 9 to 11. Children were then asked about their propensity to multi-task [using](#) digital devices – for example, by checking their phones while completing their homework. In line with Tebar et al.'s (2021) findings, children who engaged more frequently in media multi-tasking were more likely to have a greater body mass index. Finally, Teo et al. (2018) conducted [an experiment](#) to examine how two forms of phone use would impact snacking behaviors amongst male adolescents. The authors found that when adolescents used their phones to send and receive messages, they consumed more snacks than when they used their phones to browse a neutral article.

While these papers provide empirical data across the lifespan, two further commentaries discussed possible mechanisms through which smartphones may influence our eating behaviors. At the individual level, La Marra et al. (2020) considers how smartphones may simply distract an individual from eating. If someone fails to track how much he or she has eaten, this could result in overeating irrespective of the distraction (technological or otherwise) ([e.g., Gonçalves et al, 2019](#)). [Even results that appear specific to key smartphone functions may simply reflect group processes observed offline](#). For example, previous studies have found that eating behaviors increase in the presence of other people and the virtual company offered by smartphones [through messaging, video calling or other social networks](#) may increase food consumption via a similar mechanism (Teo et al., 2018). On the other hand, Stephens et al. (2020) argue that the convenience offered by phone apps alone may be a larger societal driver of unhealthy eating. Notably, phone-based food delivery apps have grown in popularity over the past decade. As these delivery apps disproportionately support access to 'junk' food, a frequent user may be at higher risk of weight gain.

Taken together, the articles in our Research Topic highlight several ways in which smartphones may alter the eating experience. Two decades after the first mass-marketed smartphone was introduced, research questions and methods continue to evolve. [Future](#)

research might specifically explore whether the impact of smartphones differs as a function of: (i) the phone user (e.g., adolescents versus adults, persons of normal weight versus overweight); or (ii) the type of phone use (e.g., passively watching videos versus actively playing games). However, the direction of any effect may not always be inherently obvious. For example, engaging with content that is especially distracting could result in over or under-eating and this may vary between different groups. Interactions between individual differences and specific technology interactions will, in turn, become even more important if new research is to capitalize on recent methodological advances (Ellis, 2020).

While most designs rely on snapshots of self-report to capture both phone use and dietary behavior, smartphones can become part of a researcher's toolkit. Such approaches help mitigate methodological limitations and allow for longitudinal designs with larger sample sizes that capture dynamic patterns of behavior via experience sampling (e.g., Yong et al., 2021). For example, the ubiquitous nature of smartphones means that they can be used to track eating patterns directly by allowing participants to keep diaries or take photographs of their food (Ellis, 2020). Advances in image recognition whereby photos of food can be automatically classified are likely to provide even more exciting opportunities for researchers in this area (Tran et al., 2021). However, even without such developments, smartphones can already be used to encourage or monitor the effectiveness of behavioral interventions (e.g., Piazza et al., 2021). As smartphone adoption is predicted to grow over the next decade (Statista, 2021b), we hope that this collection contributes to the conversation, spurring further research on what it means to eat in an age of smartphones.

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