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Commentary

Affect, "wanting" and relevance: Commentary on Lutz et al. (2020)

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1. Introduction

Lutz et al. (2020) present a study investigating the impact of mood on the processing of food images. As affective scientists specialized in reward and food intake, we believe this study can deliver fundamental scientific insights into food processing malleability and we are thankful it was conducted. With this commentary, we would like to draw attention to three theoretical and methodological points that we believe are important to consider for future studies building on the work presented by Lutz et al. (2020).

First, the paper by Lutz et al. (2020) contains several affective terms such as mood, emotion, and stress. It is important to note that they are distinct concepts in affective science (Scherer, 2005) and they only partially overlap. While mood is conceptualized as a diffuse and relatively long-lasting affective state, emotion refers to a short episode of synchronized changes in an organism's subsystems in response to an event assessed as relevant for that individual (Scherer, 2005). According to Lazarus and Folkman (1984), stress arises when an individual perceives an event as threatening its physiological or psychological integrity and does not feel able to successfully cope with this event. Considering this theoretical distinction, three suggestions come to mind: a) when it is unclear whether a study investigated mood, emotion, or stress, it is best to use a generic term such as *affect* in order to avoid any theoretical confusion; b) strictly using mood, emotion, or stress (or carefully defining their uses if non-conventional) could help clarify literature reviews as well as discussions on how affect could impact food intake in healthy weight individuals as well as in clinical populations; c) Lutz et al. (2020) compared a negative affect induction to a neutral control. If one observes differences between these two conditions in such a setting, it is impossible to interpret which component(s) drive(s) the effects observed: valence, arousal, both, etc. Indeed, the importance of control conditions has been increasingly underlined (Becker, Jostmann, & Holland, 2018). Consequently, we would have recommended the use of three conditions here: a negative mood induction, a positive mood induction matched for arousal level, and a neutral condition.

Second, the first hypothesis tested in Lutz et al.'s paper is that the mood induction will "increase motivational salience of food images in the bulimia nervosa (BN) group, as indicated by increased desire-to-eat ratings" (p. 7). However, it is unclear that motivational salience can be measured with self-reported desire-to-eat ratings. Reward-seeking behaviors have long been conceptualized to involve multiple components. According to Berridge and his team (e.g., Morales & Berridge, 2020), reward engages two different motivational processes. The first one is subjective desire (wanting), an explicit process related to the subjective feeling of being attracted toward an object of desire. Since this process is explicit, it is accessible to the subjective experience; it is therefore often measured through self-reports. The second one is incentive salience ("wanting"), an implicit process and Pavlovian mechanism that generally cannot be consciously accessible. This process is usually measured through cue-triggered mobilized effort (Pool, Sennwald, Delplanque, Brosch, & Sander, 2016). Between these two processes, incentive salience is the one that is thought to be involved in problematic food-

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seeking behaviors such as binge eating (Morales & Berridge, 2020). Therefore, measures targeting incentive salience could be an interesting lead to follow in parallel to the self-reported desire-to-eat used by Lutz et al. (2020) for future work investigating motivational processes in BN. Moreover, incentive salience can be dissociated from the hedonic processes under some particular circumstances such as stress (Pool, Delplanque, Coppin, & Sander, 2015). This might lead to situations where an individual is willing to mobilize a large amount of effort to obtain a reward that is not appreciated once obtained, like in binge eating episodes.

Third, food, like any stimulus or situation (Coppin, 2017), can be assessed as relevant depending on one's current needs, goals, or values. Accordingly, food relevance critically relies on the interaction between the properties of the food stimuli and the current needs and values of the individual such as hunger (Hinton et al., 2004) or personal preferences toward certain food items (Arana et al., 2003). We applaud the authors for using idiosyncratic situations to induce mood states. We encourage them to adopt a similar approach for food items in future studies as there is a large variability in food preferences (Mathers, 2019). Due to these large interindividual differences, using a sample of food items not adapted to the participants' personal preferences might hinder expected effects. For instance, if participants are presented with a food they do not like, their desire to eat this item will likely be low, no matter what the mood induction condition is. We would also like to emphasize that picking idiosyncratic food stimuli has another advantage. Research in affective science has shown that stress can increase palatable food consumption. This stress-induced increase appears to be underpinned by a stronger control of the habitual and Pavlovian systems over the goal directed system (Pool et al., 2015). As a consequence, in a stressful state, individuals will increase their consumption of palatable food, only if they habitually consume palatable foods. Thus, future research expanding the work of Lutz et al. (2020) could improve their method by adding an item selection phase where participants select food that they usually consume as well as like and where their pre-existing food consumption habits are assessed. This way the food stimuli used in the experimental task can be tailored to each participant based on their habits and preferences. This is especially important when studying individuals suffering from BN.

2. Conclusion

This study is a fruitful step to better characterize the impact of affect on food image processing in BN. As rightly pointed out by the authors, its understanding "may contribute to the development of tailored interventions in the future" (p. 3). In this perspective, we deem important to carefully define the affective processes involved and examine their impact on food processing with a method designed to target specific affective mechanisms.

3. Contributors

GC and ERP wrote the manuscript.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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