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**OBESITY – LETTER TO THE EDITOR**

**In response to: The Potential Impact of Body Mass Index, Cognitive Dissonance and Stigma. Shae-Leigh C. Vella & Nagesh B. Pai**

**TO THE EDITOR:**

 We thank Vella and Pai for their letter regarding our article *‘Believing in food addiction: Helpful or counterproductive for eating behavior’*(1). In this work, we found that leading people to believe they scored highly on food addiction resulted in increased dietary concern and reduced food intake. Vella and Pai propose three alternative explanations for the results, specifically body mass index (BMI), cognitive dissonance and perceived stigmatization. We were unable to discuss these issues at length in our article due to the word limit therefore we are grateful for the opportunity to do so now.

 In the two studies reported in our article, the average BMI was within the healthy range (Study 1: Mean ± *SD* = 23.41 ± 4.29 kg/m2; Study 2: 22.77 ± 4.53 kg/m2). In Study 1, 14 and 4 participants (out of 64) had BMIs of over 25 and 30 kg/m2, respectively. Comparable numbers in Study 2 were 16 and 3 (out of 90). We agree that the role of BMI may be pivotal, a point to which we alluded, albeit briefly, in the Discussion of our article (p.1242). To explore this issue further, we have re-run our analyses with BMI as a covariate within the models and the results were unchanged. However, as indicated above, this may be due to the small number of participants with a BMI of over 30.

We agree that there are parallels between our findings and those of Hoyt et al. (2). However, in the latter study, the effect of the “obesity is a disease” message on concern for weight was only evident in participants who had a very high BMI (i.e. 1 *SD* above the mean). In participants who were 1 *SD* below the mean (the BMI group that was closest to our sample), there was no significant effect of the message on concern for weight.

 Importantly, the likelihood of believing oneself to be a food addict increases with higher BMI (3), and this suggests a key role for cognitive dissonance as Vella and Pai propose. In individuals with obesity, we would therefore predict there to be *less* dissonance between the food addiction feedback and self-concept; instead the feedback may confirm participants’ pre-existing beliefs resulting in behaviour that is consistent with overeating. In contrast, in healthy-weight individuals, the food addiction feedback may be *more* dissonant with self-concept resulting in the need to reduce this by eating less.

 Previous research also indicates that food addiction is vulnerable to stigmatization (4). On this basis, we agree that future studies should consider whether participants in the high-addiction condition felt stigmatized and ate less to mitigate this. This could be determined by measuring the extent to which participants feel they would be judged negatively after receiving the food addiction feedback.

 We do not advocate the use of the food addiction construct as a strategy for managing overeating and weight. Instead, we view our study as a useful starting point for further research into the impact of personal food addiction beliefs across different BMI categories, and through various psychological mechanisms. This is an important but under-researched area. We look forward to seeing these ideas empirically tested in the future.

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**References**

1. Ruddock HK, Christiansen P, Jones A, Robinson E, Field M, Hardman CA. Believing in food addiction: Helpful or counterproductive for eating behavior? *Obesity* 2016*;* 24: 1238-1243.
2. Hoyt CL, Burnette JL, Auster-Gussman L. “Obesity is a disease”: Examining the self-regulatory impact of this public-health message. *Psychol Sci* 2014; 25:1-6.
3. Ruddock HK, Dickson JM, Field M, Hardman CA. (2015). Eating to live or living to eat? Exploring the causal attributions of self-perceived food addiction. *Appetite* 2015;95:262-268.
4. DePierre JA, Puhl RM, Luedicke J. Public perceptions of food addiction: a comparison with alcohol and tobacco. *J Subst Use* 2014; 19: 1–6.