Telling people they are overweight: helpful, harmful or beside the point? Eric Robinson <sup>1</sup>, Ashleigh Haynes <sup>1</sup>, Angelina R Sutin <sup>2</sup>, Michael Daly <sup>3,4</sup> <sup>1</sup> Institute of Psychology, Health & Society, University of Liverpool, Liverpool, UK <sup>2</sup> Florida State University, College of Medicine, Florida, US <sup>3</sup> Behavioural Science Centre, Stirling Management School, University of Stirling, UK <sup>4</sup> UCD Geary Institute, University College Dublin, Ireland Correspondence: Eric Robinson, Institute of Psychology, Health & Society, University of Liverpool, L69 7ZA, UK. Email: eric.robinson@liv.ac.uk **Declaration of Conflicting Interests:** The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article. Word count: 979 **Key words**: obesity; weight misperceptions; obesity stigma; body image Accepted for publication in International Journal of Obesity by Springer Nature

Weight status misperception refers to when a person's subjective perception of their own or another person's objective weight status is incorrect. Parents of children with overweight and obesity often fail to identify their child as being 'overweight' and in a similar vein, a large number of adults, adolescents and children with overweight or obesity fail to recognise that they are overweight. These observations are not new and have long been presumed to be a concern; if people do not realise they are overweight, how will they change their behavior to lose weight? For example, the failure of parents to identify their children as overweight has recently been described as 'promoting the silent rise' of obesity<sup>1</sup> and new research reported in the International Journal of Obesity suggests that healthcare professionals not notifying children and their families of their 'unhealthy weight status' is a missed opportunity to combat obesity<sup>2</sup>. These sentiments are echoed in public health intervention approaches. One example is national weight measurement programmes that monitor child weight and notify parents if their child has an 'unhealthy' weight status.

The presumption that ignorance is damaging in this context has face value and is supported by some cross-sectional evidence, as numerous studies have shown that individuals who fail to recognise they are overweight are less likely to be attempting weight loss.

However the best prospective evidence to date suggests that ignorance may be bliss when it comes to overweight and obesity. If ignorance is damaging, then children whose parents fail to identify their overweight status should be the most at risk of further weight gain. The opposite, however, is true: When a parent identifies their child as being overweight, that child is most at risk of future weight gain<sup>3</sup>. Likewise, if ignorance is damaging, then adolescents and adults with overweight who fail to identify themselves as such should be at risk of gaining further weight. Again, the opposite is true: it is self-identification of being overweight that is prospectively predictive of greater weight gain<sup>4</sup>. A recent quasi-

experimental study has also shown that, among adolescent females, notification of being overweight was associated with increased weight gain<sup>5</sup>.

What can explain these counter-intuitive findings? Overweight and obesity are widely stigmatised, and knowledge that you possess a characteristic devalued and derogated by society is likely to be psychologically damaging. Theory from social psychology suggests such stigmatization impairs self-regulation and makes weight management more difficult<sup>6</sup>. In line with this suggestion, one of the reasons that self-identification of overweight is associated with increased weight gain is because it places a person at a greater risk of stress-induced overeating<sup>4</sup>. Likewise, other research has shown that perceived weight discrimination predicts a range of negative health outcomes, including further weight gain. Thus, the stigma attached to identifying as being a person with overweight or obesity may ironically exacerbate these conditions.

Aside from weight gain, evidence links self-identification of overweight to mental health problems. Cross-sectional and longitudinal work examining differences between those who identify vs. fail to identify themselves as being overweight support this argument and suggest that this process plays out across the lifespan: Adolescents who identify as overweight are at higher risk of major depression than those who believe they are of normal weight. It is plausible that lower psychological wellbeing predisposes an individual to recognise that they are overweight rather than lower psychological well-being being a consequence of identifying as overweight. Longitudinal data, however, support the former proposition: identifying as being overweight is predictive of poorer psychological outcomes over time. For example, one study found that adolescents who self-identified as overweight (as opposed to not self-identifying) were more likely to experience declines in mental health by young adulthood. Importantly, the evidence also suggests that whether or not someone identifies as being overweight is predictive of poorer psychological outcomes independently

of their objective weight status. See Table 1 for additional studies that link self-identification of overweight to negative health outcomes. These findings suggest that the stigma attached to overweight and obesity not only exacerbates obesity but also damages mental health.

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What relevance do these findings have to public health efforts against weight gain and obesity? First, they reinforce the idea that the psychosocial experience of obesity is part of the etiology of obesity and is likely to be one major contributor to why it is such a devastating condition. Second, they suggest that 'light touch' public health approaches directed at the 'individual', such as informing people that their weight is 'unhealthy', probably have no beneficial effect on health. Moreover, if such approaches do not consider the stigma attached to overweight and obesity they may even be to the detriment of the individual. In terms of successful weight management across the life course, those who identify as overweight fare worse than those who fail to identify as overweight<sup>4</sup>. A large amount of obesity research to date has focused on intervening at the 'individual' level and few would argue that these efforts have by and large have failed; we lack convincing 'individual' level interventions that achieve meaningful weight loss that is maintained in the long-term<sup>9</sup>. This outcome is not surprising when we consider the environment in which the individuals we target reside. Changes to the food environment have been widely accepted as one major cause of the obesity crisis<sup>10</sup>. With this in mind, if we are serious about tackling obesity we should in part accept that approaches targeted at the individual will be doomed to fail unless the obesogenic food environment is addressed. 'Renormalizing' our obesogenic food environment will require substantial government investment and policy change. Critically, this process will need to be research led. One benefit of taking aim at the environment, rather than the individual, is that this approach does not stigmatise the individual. This approach also takes aim at the cause and therefore most likely solution to the obesity crisis; our current obesogenic food environment.

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126

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