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Making snacking less sinful: (Counter-)moralising obesity in the public discourse differentially affects food choices of individuals with high and low perceived body mass

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Objective: As public discourse surrounding obesity highlights the societal costs of obesity and individual's own responsibility for their weight, being overweight is often framed as immoral. Such 'moralizing' messages about being overweight may be a psychological threat for those with high body mass. Attempting to *counter-moralise* the public discourse (i.e. actively arguing that there is nothing 'immoral' about being overweight) may relieve this threat, inducing people, especially those with higher (perceived) weight, to engage in healthier behaviours.

Method: Two experiments were performed among Dutch and US participants. (Counter-)moralisation was manipulated. Body mass and weight-related self-perceptions were measured. The dependent variable was healthy vs. unhealthy snack choice.

Results: (Counter-)moralisation and (perceived) overweight jointly predicted snack choice: counter-moralising messages induced healthy snacking, but only among those who regarded themselves to have a high body mass.

Conclusions: The effects of moralising vs. counter-moralising obesity depended on one's (perceived) overweight. This suggests that, for people with relatively high weight, the current moralising public discourse on obesity works in counterproductive ways. Campaigns that 'counter-moralize' obesity (i.e. that refute moralising messages) are more productive, although they should be tailored to those who see themselves as being overweight.

Keywords: obesity; overweight; body weight; moralisation; eating; health behaviour; public discourse

In contemporary Western society, obesity is regarded as one of the most pressing health threats. In the UK, almost a quarter of adults were classified as obese in 2010 (Morgan & Dent, 2010). Growing evidence suggests that the rise of obesity is strongly influenced by environmental factors (Hill & Peters, 1998; Townend, 2009). These are, for example, the discouragement of physical activity due to advances in technology and transportation, the provision of larger food portion sizes (Hill & Peters, 1998), and the over-availability and inexpensiveness of highly palatable yet unhealthy foods

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(Neckerman et al., 2010; Wang et al., 2010). Indeed, whether an individual becomes overweight is of complex etiology, involving not only behavioural, but also genetic and environmental components (Callahan, 1986; Comuzzie & Allison, 1998; Simopoulos, 1987). Despite the many causes of obesity, public discourse within western society focuses on the societal costs of obesity and individual's responsibility for their weight. As such, being overweight is often framed not only as being 'unhealthy', but also as 'immoral'. Scholars have begun to discuss the public 'moralization' of this particular social issue (Hoverd & Sibley, 2007; Townend, 2009; Webb, 2009).

The question raised in this paper is whether a public discourse moralising obesity impacts the health-related behaviours of individuals (particularly, (un)healthy eating), and if such an influence varies depending on individuals' actual and perceived weight. We expect that people who see themselves as heavier will make healthier food choices after being exposed to a *counter*-moralising message than to a moralising message about obesity. Such a finding would have implications for theory development on the topic of moralisation as it shows that moralisation of specific behaviour may fail to foster the behaviour for the people for whom the moralisation bears the most relevance. It would suggest that, when messages are targeted to high-weight individuals, moralising language should be avoided and, better still, countered. This would have important implications for how social interventions aimed at preventing obesity are shaped.

Below, we discuss the moralisation of obesity in the public discourse and propose how counter-moralisation messages can impact health behaviours differently for those of relatively lower and higher weight.

A public discourse moralising obesity

Moralisation is defined as 'the accretion of moral value to activities or substances that previously had no moral value' (Rozin, Markwith, & Stoess, 1997; Rozin & Singh, 1999). This means that a behaviour is moralised when it is considered an (im)moral act instead of only a personal choice or preference (Helweg-Larsen, Tobias, & Cerban, 2010). Harm to others and responsibility for one's actions are important elements that determine whether something is subject to moral judgments. Philosophers generally agree that, for an act to be regarded as immoral, suffering victims and a blameworthy agent need to be involved (Gray & Schein, 2012). In the light of this role of harm and responsibility in morality, one can argue that current public discourse moralises obesity. First, both media coverage and governmental plans to reduce obesity usually refer to the harm that obesity poses on society as a whole in terms of *costs*. The US media is replete with stories reporting the differentials in medical costs for overweight vs. healthy weight individuals. Examples are messages on higher costs associated with obesity as compared to cigarette smoking, the additional jet fuel required by commercial airlines to transport obese Americans, and the higher rates of work absenteeism among overweight workers (see Begley, 2012; Hoffman, 2012). Similar media attention appears in the UK and other parts of Europe (Donnelly, 2013), as do reports issued by government agencies, such as Public Health England (Morgan & Dent, 2010). Second, with regard to responsibility, much of the public discourse around obesity emphasises the choices of individuals (regarding eating and exercising) as the cause or the solution to being overweight as opposed to the environmental conditions that influence weight-related conditions (Saguy & Gruys, 2010). Politicians regularly launch health initiatives

that target changes in individuals' behaviour as opposed to environmental changes, thereby calling upon individuals' responsibility for their own weight.

By implying that obese individuals are harming the welfare of society and that they personally bear responsibility for their weight, social messages serve to 'moralize' attitudes toward obesity. These messages imply that obesity is inherently 'wrong' by linking it to moral failure (Townend, 2009). Indeed, studies show that people implicitly associate the concept of obesity with morally evaluative language (Hoverd & Sibley, 2007). In weight management groups, both group members and leaders talk about eating and dieting by making reference to morality and accountability (Mycroft, 2008). Also, disgust has been shown to be associated with weight discrimination (Vartanian, 2010). As disgust is an emotion strongly associated with moral condemnation (Horberg, Oveis, Keltner, & Cohen, 2009), this suggests that weight discrimination has a moral basis.

Behavioural implications of moralising vs. counter-moralising obesity

Apart from the issue of whether or not the current moralisation of obesity is justified, the question is whether the current status quo of moralising obesity induces healthy behaviours (in this case: healthy food choices) or whether society would be better off *reducing* the moralisation of obesity within its public discourse. In other words, how does exposure to either an obesity moralising public discourse or a public discourse that *counters* such moralisation affect individuals in terms of healthy eating? This is a question that, so far, has been untested. On the one hand, we might expect that the moralisation of obesity induces healthy behaviour, considering that the moralisation of cigarette smoking (Rozin & Singh, 1999) has gone hand in hand with a decline in smoking since the 1960s (Rock et al., 2007). One may argue that moralisation shapes social norms in favour of healthy eating. After all, social norms influence behaviour (Cialdini, Reno, & Kallgren, 1990) and eating behaviour has also been shown to be subject to social norms (e.g. Baker, Little, & Brownell, 2003; Howland, Hunger, & Mann, 2012; Stok, de Ridder, de Vet, & de Wit, 2014). Therefore, it may seem logical to expect that the moralising of obesity messages contributes to healthy eating.

On the other hand, it has been suggested that moralisation can have backlash effects. People may react adversely to moralising messages, as they communicate moral superiority, and may therefore prevent individuals from feeling virtuous themselves (Kreps & Monin, 2011). Indeed, research on vegetarianism has shown that anticipated moral reproach and feeling morally judged had a backlash effect and created resentment among non-vegetarians toward vegetarians (Minson & Monin, 2012). Within the realm of eating behaviour, recent research has shown that health-promoting injunctive norms actually decreased fruit intake intentions (Stok et al., 2014). This suggests that the moralisation of issues may make them vulnerable to reactance (Brehm, 1966). Specific to the current context, when confronted with messages moralising obesity, people may choose unhealthy rather than healthy behaviours out of spite, resentment and insecurity caused by such messages.¹

Because the backlash effects of moralisation are associated with experienced self-threat (Kreps & Monin, 2011; Minson & Monin, 2012), we argue that the effect of weight moralisation on behavioural will depend on whether the actor is overweight, and therefore

personally feels addressed by the moralisation. For heavier individuals, a moralising discourse bears more personal relevance and may be therefore psychologically threatening. Moralising social norms imply a negative evaluation of them, leading to feelings of stigmatisation (Puhl & Latner, 2008). As previous research has shown that threatening information can cause defensive reactions (e.g. Brown & Locker, 2009; Kessels, Ruiter, & Jansma, 2010; Liberman & Chaiken, 1992), the threat that accompanies a moralising message about obesity can be expected to lead to defensive self-regulation. As such, in reaction to moralisation, such individuals may become unwilling to change weight-related behaviours in the direction of the threat influence, thus leading to more unhealthy eating behaviours. For example, Grob, Dijkstra, and De Groot (2011) found that smokers lowered their intentions to quit smoking in response to social norms interpreted as threatening to the self. Also, feelings of stigmatisation have been associated with less healthy behaviours and less weight loss (Puhl & Brownell, 2006; Puhl & Latner, 2007; Wott & Carels, 2010).

In contrast, *countering* the moralised public discourse surrounding issues of obesity may relieve this threat and behavioural resistance, allowing motivation and behavioural intentions surrounding weight loss to be more self-determined (Silva et al., 2010; Standage, Duda, & Ntoumanis, 2003). Countering the moralising discourse may be done by changing people's minds about whether being overweight is morally wrong. Without denying that obesity may have negative consequences, such a message argues against moralisation. For example, this can be done by explaining and stressing environmental/societal causes of obesity, and/or disputing current assertions that overweight individuals are responsible for unduly taxing society. So, with a public discourse that counter-moralises obesity, we refer to the use of messages that actively argue against moralisation rather than that merely avoid moralising language.² Exposure to such a message may lift the moralising social norms surrounding obesity and relieve overweight individuals from felt stigma threat. Subsequently, this would reduce defensive forms of self-regulation. As such, having a high body mass may become less of a threat, and more simply a reason to live healthier. Thus, for people with high weight, a counter-moralising message about obesity may, in contrast to a moralising message, lead to healthier food choices.

That being said, the effect of moralising and counter-moralising messages may have different effects on those who are not (or who do not view themselves as) overweight. These individuals will not feel personally stigmatised by a moralising message, as it bears less personal relevance for them. Thus, a social message conveying the moral impropriety of being overweight may not threaten their self-determination. They may simply experience the social norm as information on what is socially desirable or not, and comply with it without resistance. Even more, a moralising message gives individuals with a low body mass – a goal – to engage in behaviours that will not lead them to become part of this stigmatised group. Imposing a counter-moralising message may take this goal *away*, removing aspects of the motivational structure to engage in healthy eating behaviours. In sum, we do not expect an increase in healthy food choices due to counter-moralisation for less heavy individuals. In fact, for these people, a counter-moralising message may remove the social norm that being overweight is undesirable, and may possibly even decrease their motivation to make healthy food choices.

Based on the above theorising, we expect that exposure to a (counter-)moralising public discourse message has different effects for high- and low-weight people, such

that the higher an individual's weight, the more exposure to a *counter-moralising* message (as compared to a moralising message) will induce healthy food choices; whereas, the lower an individual's weight, the more exposure to a *moralising* message (as compared to a counter-moralising) message will induce healthy food choices. Two laboratory experiments were performed to test these expectations. Three public discourse conditions were compared: overweight moralising, overweight counter-moralising and a control condition that was neutral with regard to being overweight. In Study 1, (Dutch) participants' weight was assessed by calculating participants' body mass index from their self-reported weight and height. Study 2 was designed to replicate and extend the results of Study 1, by virtue of testing the hypotheses in a sample from another country (USA), measuring actual (as opposed to self-reported) height and weight, and including a perceptual measure of weight status.

Study 1

Method

Participants

Participants were 98 Dutch undergraduate students who were recruited via various postings around campus offering payment for research participation. Participants were randomly assigned to one of the three public discourse conditions (moralisation, counter-moralisation and control). Students participated for €6 and an additional 'small thank you gift' (which turned out to be a snack). As the kind of snack they chose (healthy vs. unhealthy) was the dependent variable, the response of one participant who did not take a snack at all was removed from the data-set. Also, the responses of nine participants for whom BMI could not be calculated due to missing values in their height or weight were removed from the data-set. This left 88 participants (65 female, $M_{\text{age}} = 20.7$ years, $SD_{\text{age}} = 3.80$)³: 29 in the control condition, 30 in the counter-moralising condition and 29 in the moralising condition.

Procedure

Participants were invited to the research laboratory and were seated in separate computer cubicles. They were presented a writing task that 'aimed at gaining insight into how people interpret and remember texts'. A paper copy of a (bogus) magazine article was placed next to the computer. Participants were asked to read and summarise the article (using the computer). After this, the experimenter reminded participants that they had been promised a small thank you gift for participation, presented them with a basket containing healthy and unhealthy snacks and allowed them to take one. Then, they were fully debriefed and asked to provide their height and weight.

Manipulation

In all conditions, the (bogus) article concerned the topic of body weight. All three versions started with general statements about the proportion of individuals with obesity in society (194 words). It expressed that the number of obese individuals was growing and briefly explained the causes (i.e. that our bodies are built for dealing

with food scarcity and that, in current times, food is of high energy value). In the control condition, the article ended here. In the moralisation condition, the rest of the article (419 words) portrayed being overweight as something immoral, and used the argument that being overweight is costly for society. More specifically, it stressed health costs caused by obesity-related diseases, and suggested these costs have created the necessity to raise workers' financial contributions to their health insurance. It pointed out that overweight individuals bring about other societal disadvantages due to sick leave, social security costs, longer waiting lists for operations and the need for adapted daily life facilities. It also discussed the implications of overconsumption for the environment, and economic implications for developing countries. Finally, it stated that, considering the increasing population, being overweight is immoral because it represents people taking more than their fair share. In contrast, in the counter-moralisation condition, the rest of the magazine article (301 words) argued against the notion that being overweight is something immoral. It argued that, although overweight individuals are sick more often, they also have shorter lifespans, which makes up for associated health costs; and stated that the costs associated with adapted facilities for overweight individuals is minimal. Finally, it concluded that it was unjustified to state that it is 'immoral' to be overweight.⁴

Measures

BMI. Body mass index (BMI) was calculated from participants' self-reported height and weight data. The mean BMI was 21.29 (SD = 2.51, Minimum = 15.60, Maximum = 29.6) and did not differ between the conditions, $F(2, 86) < 1$, $p = .78$. We found one outlier for BMI ($M = 29.63$). Removal of this outlier did not affect the results, so it was included in the analyses.

Snack choice. The basket of snacks that was offered to participants contained a mix of unhealthy snacks (small chocolate bars and cupcakes) and healthy snacks (apples and tangerines). It was recorded what snack the participant chose.

Manipulation check. Participants' summaries of the article were coded by an independent rater who was blind to which condition each participant was assigned. For each summary, the rater coded which of the three conditions to which it best corresponded. These codes were compared to the actual condition to which participants had been assigned. Each participant's written summary accurately matched the correct experimental condition.

Statistical analysis

To test all three possible contrasts (counter-moralisation against control, counter-moralisation against moralisation and moralisation against control), we performed two binary logistic regressions in which snack choice was regressed on condition, BMI (standardised) and the interaction between these two variables. In the first logistic regression, the control condition was the reference category and, in the second logistic regression, the moralising condition was the reference category.

Results

To illustrate the pattern of results, snack choice is plotted as a function of BMI (-1 SD and 1 SD) and the three conditions in Figure 1.

The overall model was marginally significant, $\chi^2(5) = 10.63$, $p = .059$ and the BMI $\times$ condition interaction as well, $p = .062$. More importantly, the BMI $\times$ moralisation vs. counter-moralisation interaction was significant ($B = 1.87$, Wald = 5.24, $p = .022$, Exp(B) = 6.46, LL95%CI = 1.31, UL95%CI = 31.86). The results show that, although marginally significant, for high BMI participants, counter-moralising (as compared to moralising) induced more healthy snack choices ($B = 1.86$, Wald = 3.12, $p = .077$, Exp(B) = 6.43, LL95%CI = .82, UL95%CI = 50.62; 69% for counter-moralisation vs. 40% for moralisation, estimated at 1 SD_{BMI}), while for low BMI participants, counter-moralising (as compared to moralising) induced significantly less healthy snack choices ($B = -1.87$, Wald = 3.88, $p = .049$, Exp(B) = .15, LL95%CI = .02, UL95%CI = .99; 18% for counter-moralisation vs. 49% for moralisation, estimated at -1 SD_{BMI}). Second, the BMI $\times$ counter moralising vs. control interaction was significant ($B = 1.62$, Wald = 4.33, $p = .038$, Exp(B) = 5.05, LL95%CI = 1.10, UL95%CI = 23.26). Among high BMI participants, counter-moralising (as compared to the control) led to more healthy snack choices ($B = 2.05$, Wald = 4.12, $p = .042$, Exp(B) = 7.77, LL95%CI = 1.07, UL95%CI = 56.33; 69% for counter-moralisation vs 36% for control, estimated at 1 SD_{BMI}). Among low BMI participants, these conditions did not differ, $B = -1.19$, Wald = 1.57, $p = .21$, Exp(B) = .30, LL95%CI = .05, UL95%CI = 1.96. The BMI $\times$ moralising vs. control interaction was not significant, $B = -.25$, Wald = .19, $p = .67$, Exp(B) = .78, LL95%CI = .26, UL95%CI = 2.37.

Figure 1. The percentage of people who chose a healthy snack over an unhealthy one as a function of public discourse and BMI from self-reported height and weight measures, Study 1.

Discussion

This study showed that counter-moralisation differentially affected food choices of individuals with varying levels of BMI: the higher an individual's BMI, the more a counter-moralising message induced a healthy food choice. This is in line with the reasoning that counter-moralising messages bear more personal relevance for those with relatively high weight, relieving those people from the threat of a moralising social norm. This may have allowed motivation to be more self-determined and behavioural resistance to decrease. In contrast, the lower an individual's BMI, the more a *moralising* message induced healthy food choice (at least compared to a counter-moralising message). This is in accordance with the assertion that a moralising message forms a (non-threatening) social norm to eat healthily, thereby inducing this behaviour. Strikingly, food choices of participants with low or high BMI did not differ in the moralisation and the control condition. This might indicate that participants did not learn anything new upon reading the moralising information, suggesting that they already endorsed the provided perspective. This strengthens the assertion that, in current society, the status quo treatment of obesity is one of moralisation (Hoverd & Sibley, 2007; Townend, 2009; Webb, 2009).

Study 1 thus supports the notion that counter-moralisation induces healthy acts among those with high weight. As replication would strengthen these inferences, Study 2 was performed. Study 2 also addressed some possible methodological issues inherent to Study 1. In Study 1, the public discourse texts used for the moralisation and counter-moralisation condition were longer than the public discourse text used for the control condition, and the moralisation text was longer than the counter-moralisation text. The texts in Study 2 were made to be more equivalent in length, thus ruling out any possible exhaustion effects in Study 1. Another possible issue was that the content of the moralising and counter-moralising messages in Study 1 mainly focused on the potential societal costs of obesity, thereby referring more to the 'harm' component than to the 'responsibility' component of morality. To make sure that the effects of (counter-)moralising were not exclusive to harm arguments, we made more use of responsibility arguments in Study 2.

Finally, in Study 2, we sought to gain additional insight into body mass as a moderator of how people react to (counter-)moralising messages about obesity. Expectations about differences in reactions between people with high weight and people with low weight were based on the assumption that, for individuals with high weight, a moralising discourse bears more personal relevance. However, for an overweight-related message to bear personal relevance, a person should perceive him or herself as being (or being at risk of being) overweight. Certainly, actual body mass and perceptions of one's weight might not always align. It is likely that one's *perception* of being overweight rather than one's objective weight determines experienced personal relevance of (counter-)moralisation messages and thus one's reactions to these messages. The BMI measured in Study 1 probably partly reflects one's objective BMI (as it concerned participants' height and weight), and partly one's own perception of one's weight (as participants' height and weight were self-reported). To test whether the effect of counter-moralising messages is moderated by one's own view of being overweight (as opposed to objectively being relatively overweight), two different measures were used in Study 2: a measure of the perception of being overweight and the actual BMI, assessed by

objective height and weight measures taken by the experimenter. The expectation was that perceptions of being overweight would have a stronger moderating influence on the effect of (counter-)moralising messages on snack choice as compared to BMI computed via objective height and weight.

Study 2

Method

Participants and procedure

Participants were 58 university students in the Midwestern United States who participated in the experiment for course credits and an additional 'small thank you gift' (which turned out to be a snack). Five participants who failed the manipulation check (see further) and two participants who did not take a snack were removed from the sample. The remaining 51 participants (28 female⁵, $M_{\text{age}} = 19.6$ years, $SD_{\text{age}} = 1.20$): 19 in the control condition, and 16 in the moralising and counter-moralising conditions. The general procedure was the same as in Study 1.

Manipulation

The magazine article was a (bogus) street interview, in which 'Carol' (a 20-year-old undergraduate at Northwestern University) was interviewed. In the overweight moralising and the overweight counter-moralising conditions, the topic concerned body weight. In the overweight moralising condition (334 words), Carol stated that overweight individuals are a burden for society, cost society money and are, due to an unhealthy lifestyle, personally responsible for their weight. She used moralising terms such as 'fat people' and 'you should respect your own body' and expressed disgust towards overweight people. In the overweight counter-moralising condition (385 words), Carol stated that overweight people are not a burden for society, do not cost society more than others and that obesity is for a large part caused by the way modern US society is constructed. She stated it is better not to blame or stigmatise people for being overweight. In the control condition, Carol was interviewed about a topic unrelated to obesity (305 words).⁶

Measures

In a pre-experimental session, two weeks before the actual experiment, participants came to the laboratory and provided their perceptions of being overweight. Also, at the end of the actual experimental session, their height and weight were measured by the experimenter.

BMI. As in Study 1, BMI was computed by participants' height and weight data. Only now, this was computed using the measures taken by the experimenter ($M = 24.41$, $SD = 4.80$, Minimum = 17.5, Maximum = 39.8). In two cases, participants' BMI were found to be statistical outliers ($M = 39.57$ and 36.23). Removal of these outliers did not affect the results in important ways, so they were retained for the analyses.

Perceptions of being overweight. Existing measures of body dissatisfaction (e.g. Garner, Olmstead, & Polivy, 1983) are mainly used in body image studies and relate more to the specific shape of the body rather than to having high weight. As we were instead focused on how perceptions of being overweight more generally interacted with message type in impacting snack choice, we measured weight perceptions with seven items using a seven-point Likert-type response scale (1 = strongly disagree, 7 = strongly agree). The items were (1) 'In my view, I am overweight', (2) 'I find myself fat', (3) 'I am happy about my weight' (reverse scored), (4) 'I am trying to lose weight at the moment', (5) 'I have tried to loose weight in the past', (6) 'I would like to be thinner', and (7) 'At the moment I am heavier than my ideal weight'. The items showed high internal consistency reliability ($\alpha = .94$) and showed a positive correlation with our objective BMI measure ($r = .44, p = .002$).

Snack choice. The basket that was offered to participants contained a mix of unhealthy snacks (cookies and candy bars) and healthy snacks (oranges, apples, granola and fibre bars). It was recorded what snack the participant chose.

Manipulation checks. Similar to Study 1, summaries that participants wrote were coded by an independent rater. As indicated above, five participants wrote summaries that did not match the condition to which they were assigned, and were removed from further analyses.

Statistical analyses

The same binary logistic regressions were performed as in Study 1. They were carried out twice: one with participants' weight perceptions as a moderator and one with BMI as moderator.

Results

To illustrate the pattern of results, snack choice is plotted as a function of weight perception or BMI (-1 SD and 1 SD) and the three conditions, in Figure 2(a)–(b).

Figure 2. The percentage of people who chose a healthy snack over an unhealthy one as a function of public discourse and (a) participants' perceptions of being overweight and (b) BMI from height and weight measures as measured by the experimenter, Study 2.

Perceptions of being overweight

The overall model was marginally significant, $\chi^2(5) = 9.29$, $p = .098$ as was the weight perceptions $\times$ condition interaction, Wald = 5.18, $p = .075$. The expected weight perceptions $\times$ moralisation vs. counter-moralisation interaction was significant ($B = 2.26$, Wald = 4.35, $p = .037$, Exp(B) = 9.56, LL95%CI = 1.15, UL95%CI = 79.73). As hypothesised, the results showed that (although marginally significant), for participants perceiving themselves as being more overweight, counter-moralising (as compared to moralising) messages induced more healthy snack choices ($B = 2.50$, Wald = 2.82, $p = .093$, Exp(B) = 12.21, LL95%CI = .66, UL95%CI = 226.16; 90% for counter-moralisation vs. 53% for moralisation, estimated at 1 SD_{overweight perception}). Among participants perceiving themselves as less overweight, there was no difference between the counter-moralising and the moralising condition, $B = -2.01$, Wald = 2.43, $p = .12$, Exp(B) = .13, LL95%CI = .01, UL95%CI = 1.68. Second, the overweight perceptions $\times$ the counter-moralising vs. control interaction was significant ($B = 2.35$, Wald = 4.86, $p = .027$, Exp(B) = 10.52, LL95%CI = 1.30, UL95%CI = 85.20), showing that, (although marginally significant) among participants perceiving themselves as being more overweight, counter-moralising (as compared to the control) induced more healthy snack choices ($B = 2.70$, Wald = 3.48, $p = .062$, Exp(B) = 14.87, LL95%CI = .87, UL95%CI = 253.63; 90% for counter-moralisation vs. 48% for control, estimated at 1 SD_{overweight perception}). Among participants perceiving themselves as less overweight, counter-moralising (as compared to the control condition) induced no significant difference in snack choice, $B = -2.01$, Wald = 2.42, $p = .12$, Exp(B) = .13, LL95%CI = .01, UL95%CI = 1.68. There was no significant overweight perceptions $\times$ the moralising vs. control interaction, $B = .10$, Wald = .02, $p = .89$, Exp(B) = .91, LL95%CI = .23, UL95%CI = 3.54).

BMI

The overall model was marginally significant, $\chi^2(5) = 9.28$, $p = .098$ and the overall BMI $\times$ condition interaction was not significant, Wald = 3.77, $p = .15$. There was no BMI $\times$ counter-moralisation vs. moralisation interaction, $B = 1.63$, Wald = 1.59, $p = .21$, Exp(B) = 5.09, LL95%CI = .41, UL95%CI = 63.71. Contrasts were not significant either (for low BMI participants: $B = -1.84$, Wald = 1.74, $p = .19$, Exp(B) = .16, LL95%CI = .01, UL95%CI = 2.44; for high BMI participants: $B = 1.42$, Wald = .63, $p = .43$, Exp(B) = 4.12, LL95%CI = .13, UL95%CI = 135.33). There was only a marginal interaction between BMI and counter-moralising vs. control condition ($B = 2.37$, Wald = 3.56, $p = .059$, Exp(B) = 10.65, LL95%CI = .29, UL95%CI = 2.13). Among high BMI participants, there was no difference between conditions, $B = 2.31$, Wald = 1.75, $p = .19$, Exp(B) = 10.07, LL95%CI = .33, UL95%CI = 308.34. Among low BMI participants, there was a marginally significant difference between the counter-moralising and control conditions ($B = 2.42$, Wald = 3.29, $p = .070$, Exp(B) = .09, LL95%CI = .01, UL95%CI = 1.22; 18% for counter-moralisation vs. 67% for control, estimated at -1 SD_{BMI}). The interaction between BMI and moralising vs. control conditions was not significant, $B = .74$, Wald = .90, $p = .34$, Exp(B) = 2.09, LL95%CI = .45, UL95%CI = 9.64.

Overall, the effect of (counter-)moralisation was less clearly moderated by BMI than by weight perception. Whereas weight perception moderated the effect of counter-moralising both compared to the moralisation condition and to the control condition, objectively measured BMI failed to do so (and only marginally moderated the effect of counter-moralising compared to the control condition).

Conclusion and discussion

Results of Study 2 again show that there are differential effects of exposure to a (counter-)moralising message, depending on people's weight status. Moreover, Study 2 shows more precisely which aspect of weight status is more relevant: one's objective weight or one's perception of being overweight. In Study 1, the measure of BMI was a self-report measure, which conflated objective BMI with one's subjective perception of BMI. In Study 2, we included both a subjective measure (one's own perceptions of being overweight) and an objective measure (BMI as measured by the experimenter). As the effect found in Study 1 was replicated in Study 2 for the subjective but not the objective measure, we conclude that the differential effect of exposure to a (counter-)moralising message specifically depends on one's *own perceptions of being overweight* rather than on one's objective weight. More precisely, *counter-moralisation* worked out positively as the *more* people perceived themselves to be overweight. Also, recall that in Study 1, counter-moralisation seemed to work out *negatively* for those with low weight. Although the pattern was the same, in Study 2, it was not significantly the case that counter-moralisation induced healthier snack choices for those who perceived themselves as being *less* overweight. Thus, the differential effects for people with differing weight perceptions were thus mainly due to the effects of the counter-moralising message on people perceiving themselves to be *more* overweight.

All in all, Study 2 suggests that the effects of counter-moralisation are most positive for high-weight people, especially when high weight is defined according to one's own subjective perception, rather than according to one's objectively computed body mass. This is in line with the reasoning that the nature of the effect of (counter-)moralisation depends mostly on whether the (counter-)moralisation subjectively bears personal relevance and not so much on whether one objectively has a high BMI.

General discussion

The results of Study 1 and 2 confirm our expectations that the effects of (counter-)moralising social messages surrounding obesity depend on an individual's perceived weight status. In this interpretation, we assume that the self-reported weight in Study 1 must have captured at least partly the participant's perception of being overweight, as assessed in Study 2. More specifically, results show that a message that counters the moralisation of obesity evokes healthy food choices among those who regard themselves as having relatively high weight. It also suggests that, potentially (as this result did not replicate across studies), it reduced healthy choices among those who regard themselves as having relatively low weight. It is striking that in both our studies, the control condition was always more similar to the moralising than to the counter-moralising condition. Apparently, the moralising message did not present anything new for participants, which is in line with the observation that current western public discourse

already moralises issues of weight in society. Hence, in the context of current society, counter-moralising messages stand to have a greater impact (namely, a positive one for those with relatively high weight) than moralising messages.

The findings bear relevance to the topic of moralisation. Literature on moralisation has, to date, focused on moralisation as *a process* that takes place within a society (Rozin & Singh, 1999) or within individuals (Rozin et al., 1997). We are aware of no experimental research exploring how moralising messages vs. counter-moralising messages within society affect individual health behaviour. Recent qualitative research suggests that moralising opinions about smoking may be rejected by smokers (Helweg-Larsen et al., 2010). The current research provides experimental evidence that moralising messages on obesity do not have positive effects either. Moreover, it shows that the effect of a (counter-)moralisation discourse of obesity depends on whether this discourse *bears relevance* for a person. Among those for whom it bears little relevance (people who experience relatively low weight) it makes little difference whether a public discourse message is moralising or counter-moralising. If there is any reaction at all (as was found to be the case in Study 1), the counter-moralising message may take away the motivation to eat healthily by removing an unthreatening social norm that previously steered them towards healthy behaviour in order to avoid becoming an immoral person. Among those for whom a (counter-)moralising discourse bears more relevance (people who experience relatively high weight), however, the moralising message tells them that they already are immoral persons. As such, they could potentially experience a psychological threat, leading to defensive self-regulation. For them, a counter-moralising message may actually transform their feelings of having high weight from a reason to feel threatened into a self-determined motivator to live healthily.

Limitations

This research was not without limitations. One was that the healthy snack choice may not have purely reflected healthy eating. That is, behaviours may have also been influenced by a desire to present oneself favourably to the experimenter. If such self-presentation motives were indeed driving participants' choices, then one would expect healthier snack choices especially in the moralising condition. After all, this is where choosing an unhealthy snack could have been seen as reflecting unfavourably on the participant. However, moralising (as compared to counter-moralising) only induced healthier snack choices for people with *low* weight, and only in Study 1. Thus, self-presentation may not be the most self-evident explanation. After all, if obesity is moralised, snack choices of low-weight people are less likely to be scrutinised than those of high-weight people. In this case, we suspect that a more appropriate explanation for the unhealthier food choices of low-weight individuals in the counter-moralising condition of Study 1 was due to removal of an existing and non-threatening social norm. Nevertheless, as the effects for low-weight individuals were less consistent, further research is needed to draw definite conclusions about the effects of (counter-)moralising for this group. The replicated finding that people with (perceived) *high* weight were *less* likely to take a healthy snack in the moralising condition than in the counter-moralising condition suggests that those people were not motivated by self-presentation.

Another limitation is that it is unknown whether the current results extend to individuals who are significantly overweight. In the current studies, the number of

participants with a BMI of over 25 (which is regarded as overweight) was 7% in the Dutch sample and 27% in US sample. That said, we did not aim to focus on overweight individuals in particular. Rather, we aimed to study whether the effect of (counter-)moralisation depended on one's (perceptions of) weight. For this, a comparison between people with low and high weight was necessary and sufficient. Within the current samples, enough variation in BMI and weight perceptions was present to test the hypotheses. Since a linear moderating influence was found for weight, there is little reason to expect that counter-moralisation would work differently for extremely obese people. If anything, based on our reasoning that the (counter-)moralising messages bear more relevance for relatively high-weight individuals, one would expect the results to be even stronger for those with extreme obesity.

Finally, as an underlying mechanism for our effects, we proposed that counter-moralising messages relieve people with relative high weight from experienced stigma threat and replaces self-defensive reactions with more self-determined motivations to live healthily. As a first test of the phenomenon, we mainly aimed to study behavioural effects of (counter-)moralising messages. We did not test this proposed underlying mechanism as the assessment of process measures such as psychological threat or feelings of reactance was expected to interfere with behavioural measures (and vice versa). Future research could examine this and other possible underlying processes (as well as fear of stigmatisation and negative emotions) in more detail. Also, future research could test more closely whether, for people with relatively low weight, counter-moralising removes a social norm and induces *unhealthy* behaviour, as was suggested by the results of Study 1.

Implications

Practical implications of this research are that, in attempts to evoke healthy eating among overweight individuals (or those perceiving themselves as such), social interventions that contain moral content should be avoided. More than that, merely avoiding moralising language clearly does not suffice: An active attempt to counter-moralise obesity may, in fact, be necessary. Such an attempt would entail, for example, stressing that obesity has contextual and biological causes, countering the arguments that people who are obese are to be morally blamed for their weight, and that, by being overweight they invoke unjust costs on society. A potential *downside* of counter-moralisation is that it may undermine the motivation to eat healthily among people who do *not* consider themselves to be overweight. However, only the results presented in Study 1 support this inference, making more research necessary to test for this effect among relatively low-weight individuals. Nevertheless, it may be of value to specifically tailor counter-moralising messages to people who *do* regard themselves to be overweight. In the context of weight management programmes or doctor–patient relationships, this may mean that group leaders or physicians should make explicit attempts to discourage people to refer to their eating behaviour or weight in moral terms such as ‘blame’, ‘guilt’ or ‘bad behavior’.

Possibly, there may be even more reason to favour active attempts to counter-moralise obesity if one considers recent doubts about the extent to which weight *in itself* is to be blamed for the health outcomes with which it is associated. An area of research suggests that body mass (except for the extremes) does not directly cause risks of diseases and

mortality (e.g. Durazo-Arvizu, McGee, Cooper, Liao, & Luke, 1998; Flegal, Graubard, Williamson, & Gail, 2007), but that instead overweight individuals' health risks are determined by other co-occurring factors, such as fitness, activity, nutrient intake, metabolic disorders, weight cycling and socio-economic status (e.g. Campos, Saguy, Ernsberger, Oliver, & Gaesser, 2006; Charles et al., 1993; Odeleye, de Courten, Pettitt, & Ravussin, 1997; Sigal et al., 1997; Strohacker & McFarlin, 2010). Also, it is disputed whether weight loss and dieting increase health (Mann et al., 2007; Simonsen, Hundrup, Obel, Gronbaek, & Heitmann, 2008). It is suggested that, to the extent that weight loss relates to health improvement, this is due to behavioural changes as opposed to the weight loss itself, with the weight loss being no more than a side effect (Bacon & Aphramor, 2011). According to this view, weight loss may not be a valuable goal in itself and interventions should focus on health rather than weight. However, the extent to which being overweight directly threatens one's health is still a topic on which scholars disagree and on which research is needed.

All in all, whether or not the current moralisation of obesity in public discourse is justified remains a topic of debate. However, the current findings suggest that moralising obesity may be the wrong road to take with regard to evoking healthy behaviour among people who perceive themselves as overweight, and that altering the content of the current public discourse may have positive consequences for this population of individuals.

Notes

1. In this light, one can raise the question whether the earlier mentioned decline in smoking over the last few decades has occurred *because of* the moralisation of smoking or whether this decline has occurred *despite* this moralisation, and is due to other developments such as banning smoking in public places.
2. As such, although the use of counter-moralising messages may result in a society in which moralisation of obesity is absent, in terms of *message content*, the term 'counter-moralizing' does not refer to the *absence* of moralising but to the *opposite* of moralising.
3. There were no effects of gender on snack choices.
4. The articles as used in the manipulation were tested in a separate pilot study in which 46 Dutch undergraduate students (20 females, $M_{\text{age}} = 21.21$, $SD_{\text{age}} = 2.63$) completed an online questionnaire in which they read one of the three texts. Six items were presented on a seven-point answering scale (1 = *not at all*, 7 = *absolutely*) measuring the extent to which they thought the texts expressed a moralising opinion about being overweight. These items started with *According to the article ...* and continued as (1) ... *people are responsible for their own weight*, (2) ... *people who are overweight should blame themselves for this*, (3) ... *overweight people cost society a lot*, (4) ... *overweight people are a burden for society*, (5) ... *it is immoral to be overweight*, (6) ... *being overweight is a moral issue*. Together, these items formed a reliable scale ($\alpha = .86$). A one-way ANOVA showed that the three texts differed to the extent in which they were perceived to express a moralising opinion, $F(2, 43) = 11.06$, $p < .001$. Most important, the counter-moralising text was perceived to be less moralising ($M = 2.95$, $SD = .86$) than the moralising text ($M = 5.03$, $SD = .92$) and also less moralising than the neutral text ($M = 4.57$, $SD = 1.99$; Tukey's post hoc p 's $< .005$). Consequently, we concluded that the counter-moralising message and the moralising message differed from each other in the intended way. Interestingly, the text as used in the control conditions was experienced in the same way as the text in the moralising condition (i.e. scores from these two conditions did not significantly differ). This suggests that by merely addressing the issue of being overweight, one is already perceived to express a moralising opinion about it. This is in line with the view that the topic of being overweight is already moralising in current society.

5. Females chose healthier snacks than males, but controlling for gender did not alter our findings. However, a gender $\times$ condition interaction was found showing that, in contrast to the control condition, the moralising texts increased healthy snack choice among females but not among males. As this interaction was not found in Study 1, this may be explained by the fact that, in Study 2, the person expressing the moralising opinion in the articles ('Carol') was female. Perhaps, moralising exerts more positive effects when this is done by someone who is an ingroup member. This would be in line with Pagliaro, Ellemers, and Barreto's (2011) finding that people's behaviour is regulated by moral norms communicated by ingroup members rather than outgroup members. This was beyond the scope of the present paper but forms an interesting direction for future research.
6. The articles were again tested in a separate pilot study in which 70 undergraduate students from a Dutch university (32 females, $M_{\text{age}} = 21.86$, $SD_{\text{age}} = 2.71$) completed an online questionnaire. They consisted of both non-Dutch and Dutch-speaking students (the Dutch-speaking students also participated in the pilot of Study 1 with Dutch texts). Participants each read one of the three texts via an online survey. Six items were presented, along with a seven-point Likert-type response scale (1 = *not at all*, 7 = *absolutely*) measuring the extent to which they thought the texts expressed a moralising opinion about being overweight. Consistent with the Study 1 pilot study, these were (1) *Carol deems people to be responsible for being overweight*, (2) *Carol thinks that people who are overweight should blame themselves for this*, (3) *Carol finds overweight people to cost society a lot*, (4) *Carol finds overweight people to be a burden for society*, (5) *Carol finds it immoral to be overweight*, and (6) *Carol finds being overweight a moral issue*. Together, the items formed a reliable scale ($\alpha = .97$). A one-way ANOVA showed that the three text differed in the extent to which they were perceived to express a moralising opinion, $F(2, 67) = 31.46$, $p < .001$. Most importantly, the moralising text was perceived to be more moralising ($M = 6.02$, $SD = 1.24$) than the counter-moralising text ($M = 2.20$, $SD = 1.01$) and also more moralising than the neutral text ($M = 2.95$, $SD = 1.56$; Tukey post hoc p 's $< .001$). Based on this, we concluded that the counter-moralising message and the moralising message differed from each other in the intended way. No significant differences were found in scores for individuals in the control vs. the counter-moralising condition. This makes sense, considering that, unlike in Study 1, the text did not address the topic of body weight at all (so Carol could not be perceived to expressed any opinion about weight, let alone a moralising one).

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