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Weight-based discrimination, body dissatisfaction and emotional eating: The role of perceived social consensus

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Objective: Discrimination can have a negative impact on psychological well-being, attitudes and behaviour. This research evaluates the impact of experiences of weight-based discrimination upon emotional eating and body dissatisfaction, and also explores whether people's beliefs about an ingroup's social consensus concerning how favourably overweight people are regarded can moderate the relationship between experiences of discrimination and negative eating and weight-related cognitions and behaviours.
Research methods and procedures: 197 undergraduate students completed measures about their experiences of weight-based discrimination, emotional eating and body dissatisfaction. Participants also reported their beliefs concerning an ingroup's attitude towards overweight people.
Results: Recollections of weight-based discrimination significantly contributed to emotional eating and body dissatisfaction. However, the relationships between experiencing discrimination and body dissatisfaction and emotional eating were weakest amongst participants who believed that the ingroup held a positive attitude towards overweight people.
Discussion: Beliefs about ingroup social consensus concerning overweight people can influence the relationships between weight-based discrimination and emotional eating and body dissatisfaction. Changing group perceptions to perceive it to be unacceptable to discriminate against overweight people may help to protect victims of discrimination against the negative consequences of weight-based stigma.

Keywords: discrimination; obese; overweight; body-dissatisfaction; eating; ingroup social consensus

Introduction

Recent years have seen a rapid increase in the prevalence of overweight and obesity (World Health Organization, 2004). Obesity is associated with higher mortality and morbidity, including elevated risks for certain cancers, cardiovascular disease and type 2 diabetes (Haslam & James, 2005; Stark, Atkins, Wolff, & Douglas, 1981). Obesity is also linked with psychological distress, with obese people reporting greater social isolation and loneliness (Strauss & Pollack, 2003), and less reliable and intimate personal relationships

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(Horchner, Tuinebreijer, Kelder, & van Urk, 2002). In a recent study, 46% of participants reported that they would rather lose 1 year of their life than be obese, and 30% would rather divorce than be obese (Schwartz, Vartanian, Nosek, & Brownell, 2006). Given the negative physical and psychological consequences of obesity, it is important to understand the factors that predict weight gain. Social cognitive processes are one such group of factors that can impact upon eating and weight-related cognitions and behaviours. The current study focused on one specific factor – perceived discrimination – and its relationship with weight-related cognitions and behaviours. Previous research has demonstrated a relationship between experiencing weight-related discrimination and maladaptive outcomes including binge eating and body dissatisfaction (Puhl, Moss-Racusin, & Schwartz, 2007; Vartanian & Shaprow, 2008). The aim of the current research was to test a potential moderator of this relationship. We examined whether people's group-based cognitions concerning how overweight people are consensually regarded can influence the relationship between their experiences of weight-based discrimination and negative eating and weight-related cognitions and behaviours.

Several studies have established that overweight and obese people are subjected to negative stereotypes and discrimination in various areas, including employment, education and the health care system (Carr & Friedman, 2005; Puhl & Brownell, 2001). These stereotypes are evident from childhood (Bell & Morgan, 2000; Latner & Stunkard, 2003), and research suggests that the stigmatisation of obese children is increasing (Latner & Stunkard, 2003). Notably, obese people appear to be chronically aware of these negative stereotypes that exist, and these can influence their judgments about others' actions: obese women, for example, are more likely to attribute negative feedback from a male evaluator to their weight than to other factors attributed to by non-obese participants (Crocker, Cornwell, & Major, 1993). Moreover, unlike other minority groups, there is evidence that obese people themselves often have negative stereotypes about obesity, suggesting that they have internalised these characterisations (Wang, Brownell, & Wadden, 2004).

Of particular relevance to the current research are studies showing that experiences of weight-based discrimination influence negative eating and weight-related behaviours. In one study, Puhl and Brownell (2006) found that eating more food to cope with weight-based stigma was one of the five most common responses reported by adults in a weight-loss support program. Further research by Puhl and colleagues has suggested that rather than motivating overweight people to lose weight, the experience of weight-based discrimination actually predicts refusal to diet (Puhl et al., 2007). More generally, exposure to weight-based discrimination is associated with a more negative body image, body dissatisfaction, lower self-esteem and a greater prevalence of mental health symptoms (Friedman et al., 2005; Myers & Rosen, 1999; Vartanian & Shaprow, 2008).

Given its negative impact upon psychological health, eating, weight behaviours and cognitions that may exacerbate weight gain, it is imperative to understand the processes that can reduce weight-based discrimination. Previous studies on discrimination reduction have attempted to change the negative stereotypes that people hold about overweight people by manipulating controllability beliefs about the causes of obesity. Supporting attribution theory (Heider, 1958), people have been shown to attribute greater blame and prejudice against obese people when they believe that there are behavioural explanations for their condition which are under personal control, compared to when they believe there is a biological or genetic explanation for obesity (e.g. DeJong, 1993; Musher-Eizenmann, Holub, Miller, Goldstein, & Edwards-Leeper, 2004). Other research has highlighted the important influence of social consensus information on people's attitudes towards

overweight and obese people. Across three experiments, Puhl, Schwartz, and Brownell (2005) provided participants with false information concerning other people's perceptions of obese people. When participants were led to believe that these perceptions were more favourable than their own perceptions, their attitudes towards obese people became more favourable. Further, attitude change was more pronounced when this consensus information related to perceptions of the participants' own social groups (so-called 'ingroups') than when it related to perceptions of other groups ('outgroups') (see also Stangor, Sechrist, & Jost, 2001).

To the extent that perceptions of overweight and obese people become more positive, interventions based on controllability beliefs and social consensus effects should also help to reduce the occurrence of weight-based discrimination. Ultimately, if the occurrence of discrimination can be reduced, then this should transfer to a reduction in the prevalence of maladaptive eating behaviours in response to discrimination. Unfortunately, however, the prevalence of weight-based discrimination has actually risen in recent years (Andreyeva, Puhl, & Brownell, 2008) and thus in addition to challenging people's negative attitudes toward overweight and obesity, there is a clear need to develop procedures through which the damaging effects of weight-based discrimination on those people who experience discrimination can be minimised. As a first step towards this goal, the aim of the current study was to evaluate the impact of perceived ingroup social consensus upon people's responses to their own experiences of weight-based discrimination. In doing so, we draw on recent research which has examined the influence of group membership and social support on people's responses to stress.

Based on the principles of social identity and self-categorisation theories (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), several recent studies by Haslam and colleagues (e.g. Haslam, 2004; Haslam, O'Brien, Jetten, Vormedal, & Penna, 2005; Haslam & Reicher, 2006) have indicated that people's appraisals of and responses to stressful events are influenced by their membership of social groups. In one study (Haslam et al., 2005), employees reported experiencing lower levels of work stress and greater job satisfaction when they felt a sense of psychological attachment (or identification) with their work group. This effect was mediated by perceptions of social support provided by the group: participants who identified with their work group experienced *lower* levels of stress and *higher* levels of life satisfaction to the extent that they perceived the group as a source of social support (see also Levine & Reicher, 1996). Haslam et al. (2005) concluded that identification with a group can protect people against the negative effects of stressors by providing them with a 'psychological basis for receiving and benefiting from the support of other ingroup members' (p. 365). Consistent with this conclusion, other research has shown that group members benefit most from social support which is derived from an ingroup source (as opposed to an outgroup source: Haslam, Jetten, O'Brien, & Jacobs, 2004).

Like other forms of discrimination, weight-related discrimination is likely to be experienced by victims as stressful, and the current research develops the idea that group membership can similarly protect victims of weight-related discrimination against the maladaptive consequences of that stressor (e.g. emotional eating and body dissatisfaction). Our investigation focused on the eating-related cognitions and behaviours of a sample of undergraduate university students. For participants in such samples, 'university student' is likely to be a highly salient and important social identity and as such is likely to play an influential role in structuring participants' cognitions and behaviours (cf. Branscombe & Miron, 2004). Consequently, we reasoned that membership of the student group

would potentially buffer victims against the maladaptive consequences of experiencing weight-based discrimination. However, while previous research has shown that ingroups can be an important source of social support for members who have experienced a stressful event, we argue that the role of group membership in ameliorating responses to weight-based discrimination will depend upon victims' beliefs about the ingroup's attitude towards overweight people. Specifically, we suggest that when victims believe that the ingroup holds a relatively favourable attitude towards overweight people the benefits of group membership should be most marked. Following Haslam et al. (2005) and others, because such consensus beliefs likely lead victims to regard the ingroup as a source of social support, experiencing weight-related discrimination should be less strongly related to maladaptive eating cognitions and behaviours relative to those victims who do not perceive the ingroup consensus in such terms. For the latter victims, the negative relationship between experiencing weight-based discrimination and maladaptive eating cognitions and behaviours should be most apparent.

Summary of the current research

Our study examines the role of perceived social consensus in university students' responses to their own discrimination experiences. We test the novel idea that the relationships between personal experiences of weight-based discrimination and maladaptive eating-related cognitions and behaviours will depend upon victims' beliefs about the student ingroup's attitudes towards overweight people. Based on previous research by Puhl and Brownell (2006) and Myers and Rosen (1999) it was hypothesised that recollections of personal experiences of weight-based discrimination would be associated with more maladaptive eating and weight-related behaviours and attitudes, specifically emotional eating and body dissatisfaction. However, following recent research on the effects of group membership on responses to stress (e.g. Haslam et al., 2005; Levine & Reicher, 1996), it was further hypothesised that perceptions of ingroup social consensus concerning overweight people would moderate the relationships between personal experiences of weight-based discrimination and negative eating-related attitudes and behaviours. Specifically, it was hypothesised that body dissatisfaction and emotional eating would be less strongly associated with personal experiences of weight-related discrimination amongst participants who believed that the student ingroup held a relatively positive attitude towards overweight people than amongst participants who believed that the ingroup regarded overweight people more negatively.

Method

Participants and procedure

One-hundred and ninety-eight undergraduate students from Keele University took part in this study. In order to activate their student social identity, participants were told at the outset of the study that the study was concerned with *university students'* attitudes towards weight. Participants who provided informed consent then completed a series of measures as described below which were presented in a counterbalanced order. Participants either assisted on a voluntary basis or were given course credit for taking part. Ethical permission for this study was provided by Keele University's Psychology Research Ethics Committee. All participants were fully debriefed at the end of the study.

Materials

Eating and weight measures

Participants completed the 13-item Dutch Eating Behaviour Questionnaire (van Strein, Frijters, Berger, & Defares, 1986), emotional eating subscale which assesses eating in response to emotions such as anger, sadness and boredom. Participants were asked to report how often they desired to eat in response to each one. Questions were answered on a 5-point scale (1 = never and 5 = very often; Cronbach's $\alpha = 0.93$). Higher scores indicated greater emotional eating. This scale has been shown in previous research to have good external validity, internal consistency and factorial validity (van Strein et al., 1986; Wardle, 1987). In addition, the 9-item body dissatisfaction subscale from the Eating Disorders Inventory-2 was administered (EDI-2; Garner, 1991). This scale assesses participants' dissatisfaction with their body generally and also in relation to specific body parts such as the stomach, hips and thighs. Items were answered using the following scale: Always, Usually, Often, Sometimes, Rarely and Never, and were scored as 3, 2, 1, 0, 0, 0, respectively, as in Garner (1991). Higher scores on this questionnaire indicated higher levels of body dissatisfaction ($\alpha = 0.91$). The EDI-2 is a valid and reliable measure of eating psychopathology in non-clinical groups, and this subscale has good internal consistency and good test–retest reliability with coefficients above 0.80. (Garner, 1991). Lastly, in order to gain an index of the distribution of weight in the current sample, and to be able to control for participants' weight category in further analyses all participants also self-reported their height and weight, which were converted into Body Mass Index (BMI) scores ($kg\,m^2$).

Experience of weight-based discrimination

Participants were asked to rate the extent to which they felt that they personally had been the victim of weight-based discrimination using a 6-item measure based on that developed by Schmitt, Branscombe, Kobrynowicz, and Owen (2003). Schmitt et al.'s measure was employed to examine people's experience of gender-based discrimination ('I consider myself a person who has been deprived of opportunities because of my gender', 'I have personally been the victim of sexual harassment'), and was shown in their research to possess good psychometric properties. In the current study, we re-worded the items so that they targeted participants' perceptions of weight-related discrimination ('I have personally been a victim of weight-related discrimination', 'I consider myself a person who has been deprived of opportunities because of my weight', 'I feel like I am personally a victim of society because of my weight', 'I have personally been a victim of weight-related harassment', 'I regularly encounter weight-related discrimination', 'Prejudice against overweight people has affected me personally'). Participants responded to each item using a 7-point Likert scale ranging from 1 (totally disagree) to 7 (agree very much). The scale had good internal consistency in the current sample with Cronbach's α being 0.89.

Beliefs about ingroup social consensus

Beliefs about the ingroup's consensus concerning overweight people were assessed using an 8-item attitude measure designed for this study. Participants rated the extent to which an overweight person would be respected, popular, valued, liked, have friends, treated as equal, fully accepted and elected to a position of leadership by other university students. Questions were answered using a 7-point Likert scale ranging from 1 (not at all) to 7 (very much). The characteristics captured by these items have been shown in previous

attitude research to reflect qualities of normative, or 'typical' group members (e.g. Marques, Abrams, & Serôdio, 2001; Abrams, Marques, Bown, & Henson, 2000): as such, a high score on this scale was taken to indicate that participants perceived that the student ingroup held a positive attitude towards overweight people. Cronbach's α for this scale was 0.82.

Social support

The Social Support Questionnaire (short version: Sarason, Sarason, Shearin, & Pierce, 1987) was used to assess participants' perceptions of general levels of social support. This measure assesses participants' perceptions of social support for six hypothetical situations or circumstances by asking participants to list and describe the exact people that they can rely on for support in each case (e.g. 'Who can you count on to console you when you have been very upset?' 'Who can you count on to really care about you, regardless of what has been happening to you?'). Participants first provide the initials of, and indicate the nature of the relationship with potentially supportive others, giving an index of social support availability. They then rate their satisfaction with the support provided by each nominated person on a 6-point scale (1 = very dissatisfied and 6 = very satisfied). The social support questionnaire is a widely used measure to assess social support (Bal, Crombez, Van Oost, & Debourdeaudhuij, 2003; Furukawa, Yokouchi, Hirai, Kitamura, & Takahashi, 1999) and has good psychometric properties (Sarason et al., 1987; Rascle, Bruchon-Schweitzer, & Sarason, 2005). Cronbach's α was 0.84 and 0.90 respectively for availability and satisfaction with support. This measure was included in order to test our idea that the relationships between experiences of weight-related discrimination and maladaptive eating behaviours and cognitions are moderated by specific beliefs about the ingroup. Consistent with research showing that the beneficial effects of social support are derived mainly from ingroup sources (Haslam et al., 2004), we did not expect participants' general perceptions of social support to moderate the relationships between experiences of discrimination with body dissatisfaction and emotional eating.

Results

Analysis summary

Descriptive statistics were first computed for all variables. Independent sample *t*-tests were then performed to explore whether there were significant differences between normal weight and non-normal weight (including underweight, overweight or obese) participants, and significant differences between male and female participants in their responses to each of the measures. Following this, a series of two-tailed Pearson's correlations were used to investigate the relationships between experiences of weight-based discrimination, emotional eating, body dissatisfaction, social support and beliefs about the ingroup's attitude towards overweight people. Hierarchical regression analyses were then used to establish whether the experience of weight-based discrimination contributed to emotional eating and body dissatisfaction. Given that previous research has identified differences in the relationships between obesity and well-being across gender and weight categories (e.g. Wardle & Cooke, 2005), these variables were controlled for in the regression analyses.

Finally, moderated regression was used to test our central hypothesis that the relationships between experiences of discrimination with emotional eating and body dissatisfaction would be moderated by participants' beliefs about the ingroup's attitude

Table 1. Descriptive statistics for the questionnaire measures.

	Mean (SD)	Range (Min–Max)
Experience of weight discrimination	2.03 (1.24)	5.17 (1–6.17)
Emotional eating	2.48 (0.86)	3.91 (1–4.91)
Body dissatisfaction	1.07 (0.86)	3.00 (0–3)
Norm of discrimination	4.76 (0.88)	4.25 (2.38–6.63)
Social support availability	4.53 (1.95)	8.5 (5–9)
Social support satisfaction	5.00 (0.96)	4.83 (1.17–6)

towards overweight people. A second analysis tested whether these relationships were moderated by more general social support. The moderating role of these relationships was tested by examining the main effects and interaction effects of the moderator in contributing to emotional eating and body dissatisfaction. Full regression models were used to test moderation which included both the main effect of variables in step 1 of the regression and the interaction effects in step 2. All variables were centred prior to calculating interactions. The moderator effect is shown if the product term of the independent variable and moderator are significant when their main effects are controlled for (Baron & Kenny, 1986). The effects of the independent variable at different levels of the moderator were tested using simple slope analysis (Aiken & West, 1991).

Descriptive statistics

The mean BMI was 22.95 (SD = 4.11), corresponding to 'normal' weight (World Health Organization, 2004). Using these World Health Organization cutoffs 12 participants (6%) were underweight (BMI $\leq$ 18.49), 128 participants (65%) were normal weight (18.5 $\leq$ BMI $\geq$ 24.9), 31 participants (16%) were overweight (25 $\leq$ BMI $\geq$ 29.9) and 13 participants (7%) were obese (BMI $\geq$ 30). These data are broadly similar to figures from the general population of adults aged 16–24 where ~18.5% have a BMI less than 20, ~20% are overweight and 8% obese (Office of National Statistics, 1999). BMI data was missing for the remaining 14 participants. Table 1 displays the mean, standard deviation and ranges for all variables.

Independent sample t-tests

Independent sample *t*-tests indicated that there were no significant differences between male and female participants in their experiences of weight-based discrimination, their social support availability or satisfaction, or their beliefs about the ingroup's attitude towards overweight people (all $ts < 1.58$). However, consistent with previous research (Fallon & Rozin, 1985; Kenardy, Butler, Carter, & Moor, 2003), female participants reported significantly greater emotional eating [$t(195) = -4.29$, $p < 0.01$; female mean = 2.62 (SD = 0.83); male mean = 2.03 (SD = 0.79)] and body dissatisfaction [$t(126) = -5.33$, $p < 0.01$; female mean = 1.20 (SD = 0.89); male mean = 0.64 (SD = 0.51)] than male participants. Independent sample *t*-tests also indicated that there were no significant differences between normal weight and non-normal weight participants in their emotional eating, social support or in their beliefs about the ingroup's attitude towards overweight people (all $ts < 1.38$). However, replicating previous findings (Annis, Cash, & Hrabosky, 2004; Roehling, Roehling, & Pichler, 2007), non-normal weight participants

Table 2. Relationships between experiences of discrimination, emotional eating, body dissatisfaction, perceptions of normality of discrimination and social support.

	1	2	3	4	5	6
1. Experience of weight discrimination	–	0.29**	0.41**	−0.20**	−0.02	−0.19*
2. Emotional eating	0.29**	–	0.40**	−0.07	−0.07	−0.17*
3. Body dissatisfaction	0.41**	0.40**	–	0.01	−0.09	−0.21**
4. Ingroup social consensus	−0.20**	−0.07	0.01	–	0.11	0.07
5. Social support availability	−0.02	−0.07	−0.09	0.11	–	0.51**
6. Social support satisfaction	−0.19*	−0.17*	−0.21**	0.07	0.51**	–

Note: *$p<0.05$; **$p<0.01$.

reported significantly greater body dissatisfaction than normal-weight participants [$t(178)=-2.24$, $p<0.05$; normal weight mean = 0.97 (SD = 0.82); non-normal weight mean = 1.28 (SD = 0.93)] and also reported significantly greater experiences of weight-based discrimination than participants with a normal weight BMI [$t(74)=-4.33$, $p<0.01$; normal weight mean = 1.74 (SD = 0.94); non-normal weight mean = 2.71 (SD = 1.55].

Correlation analyses

As Table 2 indicates, students who reported experiencing less weight-based discrimination reported greater social support satisfaction, less emotional eating and less body dissatisfaction. They also reported that the ingroup held a more positive attitude towards overweight people.

Hierarchical regressions

Female participants reported higher levels of body dissatisfaction and greater emotional eating than did males, and non-normal weight participants reported higher levels of body dissatisfaction and stronger experiences of discrimination than did normal weight participants. Given these effects, two hierarchical regressions were conducted to establish whether experiences of discrimination were significantly associated with emotional eating and body dissatisfaction after controlling for participant gender and weight status. Using hierarchical regression models with participant weight category and gender entered in step 1, the experience of weight-based discrimination in step 2 was a significant contributor to emotional eating [$R^2=0.16$, $F(3,177)=11.16$, $p<0.001$, R^2 change = 0.07, $p<0.001$], and body dissatisfaction [$R^2=0.23$, $F(3,173)=17.30$, $p<0.001$, R^2 change = 0.12, $p<0.001$]. These findings suggest that, after controlling for a participant's weight status or gender, the experience of weight-based discrimination is associated with greater levels of body dissatisfaction and emotional eating.

Moderation analyses

Finally, moderated regression (Aiken & West, 1991) was used to establish whether beliefs about the ingroup's social consensus concerning overweight people and/or the availability and satisfaction with social support moderated the relationships between experiences of discrimination and body dissatisfaction and emotional eating.

Ingroup social consensus

For the analysis of social consensus, there was a significant interaction between beliefs about the ingroup's attitude towards overweight people and experiences of weight-based discrimination as a contributor to both body dissatisfaction ($\beta = -0.11$, $\beta = -0.14$, $t = -2.09$, $p < 0.05$) and emotional eating ($\beta = -0.12$, $\beta = -0.15$, $t = -2.12$, $p < 0.05$). These interactions were further investigated using simple slope analyses. Slopes for the regression analyses were computed at three levels of the moderator: the mean, one standard deviation above the mean (+1 SD, corresponding to the belief that the ingroup holds a positive attitude towards overweight people), and one standard deviation below the mean (−1 SD, indicating the belief that the ingroup holds a more negative attitude towards overweight people).

The interaction between the experience of weight-based discrimination and social consensus beliefs was significant at contributing to body dissatisfaction when the moderator was at the mean ($B = 0.27$, $t(186) = 5.65$, $p < 0.001$), one standard deviation below the mean ($B = 0.37$, $t(186) = 6.34$, $p < 0.001$), and one standard deviation above the mean ($B = 0.18$, $t(186) = 2.40$, $p < 0.05$). Although the interaction was significant at all three levels, the relationship was strongest when the moderator was one standard deviation below the mean, corresponding to the belief that the ingroup holds a relatively negative attitude towards overweight people. This finding suggests that the experience of discrimination is significantly associated with higher levels of body dissatisfaction, but that the strength of this relationship is greatest when participants believe that the ingroup consensus is to *not* regard overweight people favourably. In contrast, and consistent with the hypothesis, experiences of discrimination were linked with relatively lower levels of body dissatisfaction when participants believed that the ingroup holds a relatively positive attitude towards overweight people.

For emotional eating, the interaction between the experience of weight-based discrimination and perceptions of the ingroup consensus significantly contributed to emotional eating when the moderator was at the mean ($B = 0.17$, $t(190) = 3.38$, $p < 0.01$), and one standard deviation below the mean ($B = 0.27$, $t(190) = 4.45$, $p < 0.001$), but not when the moderator was one standard deviation above the mean ($B = 0.07$, $t(190) = 0.87$, $p > 0.05$). This shows that the relationship between perceiving discrimination and emotional eating is significant when participants believe that the ingroup holds a somewhat neutral or more negative attitude towards overweight people. The relationship between discrimination experiences and emotional eating is not significant when participants believe that their ingroup regards overweight people in more favourable terms.[1]

Social support

In contrast to the above evidence for a moderating role of perceptions of ingroup social consensus, there was no evidence that the relationships between perceived discrimination, emotional eating and body dissatisfaction were moderated by more general social support perceptions. Specifically, moderated regression analyses revealed no significant interaction between *availability* of social support and experiences of weight-based discrimination in the regressions with body dissatisfaction ($\beta = 0.02$, $\beta = 0.06$, $t = 0.81$, $p > 0.05$) or emotional eating as the dependent variables ($\beta = -0.01$, $\beta = -0.02$, $t = -0.29$, $p > 0.05$). Similarly, there was no significant interaction between *satisfaction* with social support and experiences of weight-based discrimination in the regressions with body dissatisfaction ($\beta = 0.04$, $\beta = 0.07$, $t = 0.86$, $p > 0.05$) or emotional eating as the dependent variables

($\beta = -0.04$, $\beta = -0.07$, $t = -0.92$, $p > 0.05$). These findings suggest that the moderating effect of participants' beliefs about social consensus concerning overweight people is specific to group-level factors and is not accounted by perceptions of more general social support.

Discussion

Body dissatisfaction and emotional eating are maladaptive behaviours and cognitions that can perpetuate overweight and psychological ill-health (Paxton, Neumark-Sztainer, Hannan, & Eisenberg, 2006; Rogers & Smit, 2000). The findings of this study support previous research which has shown that experiences of weight-based discrimination are associated with greater levels of emotional eating and body dissatisfaction (e.g. Vartanian & Shaprow, 2008; Myers & Rosen, 1999; Puhl et al., 2007). While female participants reported higher levels of body dissatisfaction and emotional eating than males, and normal weight participants reported less body dissatisfaction and experienced less weight-based discrimination than non-normal weight participants (see also Annis et al., 2004; Fallon & Rozin, 1985; Kenardy et al., 2003; Roehling et al., 2007), the relationships between experiences of discrimination with emotional eating and body dissatisfaction remained significant when gender and weight status were controlled for in the analyses. These findings highlight the potential negative consequences of weight-based discrimination, even in this non-clinical undergraduate sample of participants with a relatively normal distribution of weight.

Uniquely, the current research demonstrates the impact that group processes can have in moderating the links between experiencing weight-based discrimination and body dissatisfaction and emotional eating. While previous research has documented the benefits of group membership for dealing with stressful life events (e.g. Haslam et al., 2004, 2005), the findings reported here show that beliefs about an ingroup's social consensus regarding overweight people can moderate the relationship between perceiving discrimination and maladaptive eating-related cognitions and behaviours. More specifically, the findings revealed that experiencing discrimination was associated with these maladaptive outcomes most strongly when participants believed that the ingroup held a relatively negative attitude towards overweight people. However, when participants believed that the ingroup held a more positive attitude towards overweight people – when the ingroup was felt to regard overweight people with respect, and as equals, and so on – experiencing weight-based discrimination was less strongly associated with maladaptive behavioural and cognitive outcomes. In fact, discrimination experiences were unrelated to emotional eating when participants believed that the ingroup consensus was to regard overweight people in favourable terms. These findings support the social consensus model of discrimination (Stangor et al., 2001) which suggests that people's cognitrons can be changed by their perceptions of their ingroup's attitudes.

In the absence of direct evidence to the contrary, it could have been argued that the relationship between perceptions of ingroup consensus and the outcome variables is merely an artefact of the general support that people may perceive from their social network. To counter this possible limitation, in this study we measured participants' perceptions of support from their more general social network as well as their perceptions of the ingroup social consensus. While the results showed evidence for a correlational relationship between social support satisfaction and discrimination experiences, emotional eating and body dissatisfaction, evidence for moderation only emerged for perceptions of

ingroup consensus. These findings point strongly to the conclusion that it is not general perceptions of social support which moderate the effects of discrimination experiences, but rather victims' specific beliefs concerning their ingroup's attitudes. These findings concur with other research which has shown that the relationship between perceived social consensus and behavioural outcomes is most strongly related to perceptions of ingroup beliefs (Puhl et al., 2005; Stangor et al., 2001).

The research findings reported here have begun to demonstrate that beliefs concerning ingroup social consensus can impact upon the consequences of weight-based discrimination. However, further research is necessary to evaluate more specifically *why* these perceptions of social consensus are related to these eating-related attitudes and behaviours. One possible explanation is that perceiving the ingroup consensus as one which regards overweight people in equal terms leads victims of weight-based discrimination to regard that group as a source of support and empowers them to draw on the different types of support that it provides, including informational, instrumental, companionship and emotional support (House, 1981). Perceiving the ingroup in supportive terms also likely leads victims to appraise discrimination in a less-threatening way (e.g. Lazarus & Folkman, 1984), and in turn reduces the likelihood of a maladaptive response. Conversely, when the ingroup consensus is believed to regard overweight people in less equal terms, that group is unlikely to be seen in a supportive way, and so victims are unlikely to solicit support from the group. Ultimately, believing that the ingroup does not hold a positive attitude towards overweight people may strengthen the likelihood that victims of weight-based discrimination will appraise the discrimination in threatening terms, and as a result render them more vulnerable to negative eating and weight-related cognitions and behaviours.

Although building on previous research that has demonstrated causal relationships between group processes, social support and stress (Haslam et al., 2004), it is important to note that the current research was cross-sectional and so further work is necessary with experimental and longitudinal data to establish causality. Further, the focus of this study was on a non-clinical sample, assessing people with a normal spread of weight in society; given this, the findings are limited to a population which is not primarily overweight or obese. While the effects reported here emerged even after controlling for participants' weight category, further research is required to ascertain whether our findings can be generalised to overweight or obese populations where experiences of weight-based discrimination are likely to be greater. In addition, the present study reports findings exploring the focus population as an ingroup of primarily female students and, as such, these results could be different in other groups where attitudes towards weight may be different. A further limitation of this study is the lack of assessment of the nature of discrimination experienced by participants: whether it is ongoing, how long it was experienced for, whether it is verbal or physical, as well as who perpetrated the discrimination. For example, the role of beliefs about ingroup consensus in moderating the effects of discrimination may depend upon whether discrimination has been experienced from members of that ingroup compared to members of outgroups.

Despite these caveats, our finding that beliefs about ingroup consensus concerning overweight people moderates the relationship between perceiving discrimination and negative eating and weight-related cognitions can have important implications for interventions to combat the consequences of weight stigma. While initiatives which focus on promoting messages that it is anti-normative to discriminate against people on the basis of their weight should improve stereotypes of overweight people and, over time, reduce the occurrence of discrimination, our data suggest that such messages may have the benefit of

also reducing the likelihood that ill-health will result in those overweight and obese people when discrimination does occur.

Note

1. The correlational nature of this study allows for the testing of alternative causal models; as such, we assessed whether the relationship between discrimination experiences and perceptions of the ingroup consensus regarding overweight people was moderated by participants' own body dissatisfaction. The interaction between body dissatisfaction and discrimination experiences in the alternative model tested was not a significant correlate of the perceptions of the ingroup consensus regarding overweight people.

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