

Taking Action against Weight-Based Discrimination: The effect of Identification,  
Coping, and Anger on Collective Action Engagement

A thesis submitted to  
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by

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### **Abstract**

The current study investigated the impact of ingroup identification on overweight people's willingness to take collective action following weight-based discrimination. It was hypothesized that weight controllability would moderate the influence of identification such that people will only take collective action against weight-based discrimination to the extent that they identify as being overweight and believe weight is not controllable. To test the relationships among the aforementioned variables, overweight women's (N = 65, mean age = 22.79) belief in weight controllability was assessed. Thereafter, they were exposed to a manipulation for heightening ingroup identification (see Pickett, Silver & Brewer, 2002). Willingness to engage in collective action, coping strategies, and intergroup anger were then assessed after participants read an article that depicted an act of discrimination against overweight people. Results showed no effects were found on identification by weight controllability belief interaction on any of the dependent variables.

## Ingroup Identification and Collective Action

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Taking Action against Weight-Based Discrimination: The effect of Identification,  
Coping, and Anger on Collective Action Engagement

Acts of discrimination can yield a plethora of negative consequences for those who experience it. Specifically, discrimination is associated with both depression and anxiety among stigmatized group members (Branscombe, Schmitt & Harvey, 1999; Schmitt, Branscombe & Postmes, 2003). One type of discrimination – weight-based discrimination – might be particularly harmful given the pervasive belief in North America that being overweight is undesirable. It has been argued that the legitimized undesirability of excessive weight in North America has led to weight-based discrimination in almost every social milieu, including schools, workplace, as well as medical and mental health institutions (Harvey & Hill, 2001; Teachman, Gapinski, Brownell, Rawlins & Jeyaram, 2003). Not surprisingly, discrimination experienced by overweight people often results in psychological as well as physiological harm (Puhl & Brown, 2001).

It is often the case that, like the general population, overweight people accept the undesirability of their weight and legitimize the discrimination they face (Crandall, 1994). That said, not all overweight people accept this fate. Indeed, some overweight people might decide to confront the discrimination they face in order to change the preconceived notions of others in an attempt to change their behaviour. Previous research (Wright, Taylor & Moghaddam, 1990) has shown that collective action becomes more likely when members of the targeted group feel a sense of connection (i.e., identify) with their social group. In the current research, I examined the role identification plays in overweight peoples' willingness to take collective action against weight-based

discrimination. I also examined a potential moderator and two mediators of the relationship between identification as an overweight person and willingness to take collective action.

Specifically, I examined weight-controllability as a possible moderator of the aforementioned effects. Indeed, it is known that not all highly identified people will engage in collective action, especially if an easier route is available (see Wright et al., 1990). Among overweight people, the more they believe their weight to be under their control (e.g., diet and the weight will be lost) the less likely they should be to take collective action. Instead, collective action should be most likely when one's excessive weight is perceived to be beyond their control. The possible mediating role coping strategies play in dealing with stressors like discrimination was also examined. People use a range of coping strategies to reduce the negative effects of different types of discrimination, including sex-based (Foster, 2009), ethnic-based (Outten, Schmitt, Garcia & Branscombe, 2009), and religion-based discrimination (Ysseldyk, Matheson & Anisman, 2010). Importantly, collective action is especially likely when highly identified group members use problem-focused coping strategies (e.g., van Zomeren, Spears & Leach, 2008). In line with such research, it is possible that highly identified overweight people will be especially likely to engage in collective action when they experience group-based anger (see Mackie, Devos & Smith, 2000; Yzerbyt, Dumont, Gordijin & Wigboldus, 2002).

### **Antecedents of Collective Action**

When members of a devalued group face discrimination, they have several options to engage in actions to deal with such mistreatments (Tajfel & Turner, 1986;

Wright et al., 1999). Specifically, members might try to leave the current group and join another social group of higher status in order to improve their individual status. Such individual mobility is classified as action directed at improving one's personal status or position. A person that engages in individual mobility, for example, might attempt to distance him or herself from the group's devalued position by way of denying that they are a member of the devalued social group or by trying to obtain membership in another group, as mentioned earlier (Wright & Tropp, 2002).

Collective action, on the other hand, occurs when group members act, "as a representative of the group", which results in action that is "directed at improving the conditions of the entire group" (Wright et al., 1990, p. 995). In this instance, people first acknowledge that they are a member of a group facing discrimination and then decide that a specific action (e.g., public rallies & demonstrations) will help improve their group's social standing or collective esteem (Wright & Tropp, 2002). Indeed, by taking action, group members are able to establish a degree of achievement and thus feel more positive about themselves and their group (Louis, 2009). Importantly, feeling good about one's group (i.e., feeling a sense of connection to the group) is a key predictor of willingness to take collective action (Wright et al., 1990).

According to social identity theory (SIT; Tajfel & Turner, 1986), group identity is an important determinant of an individual's social life, as it influences one's attitudes and impacts social behaviour. This is because part of a person's sense of self is derived from their group membership (i.e., their social identity), and as a result, people are motivated to achieve and maintain a positive social identity. This motivation becomes greater to the extent that people feel a sense of connection to their social group, i.e., highly identify

with their social group. Ingroup identification is thus a prerequisite of collective action because discrimination is seen as a threat to positive social identity – taking action against the source of the perceived threat is a way to defend and maintain one’s social identity. The corollary is that those who do not identify with their social group may be less concerned with social identity threats (Hogg & Abrams, 1988). As such, high identifiers are more likely than low identifiers to engage in collective action in order to protect their group identity (see Wright & Tropp, 2002). For example, highly identified women who have experienced sex-based discrimination are more likely to engage in collective action than are low identified women (Friedman & Leaper, 2010; Iyer & Ryan, 2009). Importantly, Iyer and Ryan (2009) found that women who highly identified with their gender group see discrimination as more illegitimate and they also reported higher level of anger, which leads to higher levels of collective action engagement.

Identification with one’s group, however, is nuanced. Cameron (2004), for example, has argued that there are three components to a person’s ingroup identification: centrality, ingroup affect and ingroup ties. Centrality refers to the importance or accessibility of one’s ingroup identity. The more frequently one’s ingroup identity comes to mind, the more important or central the group is for the person. Ingroup affect measures the emotional aspect that one has towards the group. This component reflects the evaluation of group membership. Lastly, ingroup ties refer to the sense of connection between the person and their social group – a feeling of fit and a common bond with the group. A study conducted by Giguere and Lalonde (2010) has shown that breaking down ingroup identification into these three factors allow for a better assessment of people’s collective action engagement. The researchers found that both ingroup ties and centrality better predicted people’s willingness to engage in

collective action compared to ingroup affect. This is because both ingroup ties and centrality can better predict group members' rational decision-making process on engaging in collective action. It was suggested that feeling a sense of connectedness with the ingroup and perceived importance of the ingroup would provide more perceived support and resources, which would help group members to better plan collective actions.

In some instances, even when group members have high levels of ingroup ties and centrality it does not necessarily mean that collective action will be taken. People may take the individual mobility road if group boundaries are perceived as permeable (i.e., leaving the ingroup is within the realm of possibility; Tajfel & Turner, 1986). For example, it is rather difficult (aside from gender reassignment surgery) for a woman to change her gender group. Therefore, when women face discriminatory acts they are more likely to try to raise their group status and engage in collective action (Friedman & Leaper, 2010). However, there are a few social groups that are perceived as highly permeable – i.e., people can leave the group to which they belong. Being overweight, for example, is perceived as a highly permeable social group that one can, through various means (e.g., diet, exercise), leave. As a result, collective action against weight-based discrimination should be less likely to occur when overweight people think they can take control of their weight and leave the group – even among highly identified overweight people. In the following section, I review the extant literature on weight-based discrimination to better explicate the aforementioned hypothesis.

### **Weight-based Discrimination**

Weight-based discrimination is pervasive in North America (Crandall, 1994, Puhl & Brownell, 2001; Carr & Friedman, 2005). Allon (1982) found that overweight/obese people are especially likely to be stigmatized because of their weight. Perhaps more

troubling is that this form of discrimination has become legitimized (i.e., acceptable) within North America (Harvey & Hill, 2001; Teachman et al., 2003). Crandall (1994) suggested that this legitimized discrimination stems from the stereotype that overweight people are weak-willed, i.e., their excessive weight is due to their own fault. The consequence is often poor health care and quality of life for those who carry this weight (Teachman et al., 2003).

Beliefs such as individualism and self-determination are deeply embedded in Western culture, especially in North America. While these beliefs give us unique cultural values, they also affect our attitudes toward others. For example, Crandall and Martinez (1996) have argued that an essential attribute prevalent in most Western societies is that of personal controllability. That is, one's treatment in life is determined by one's own actions. Stemming from this belief is the idea that being overweight is not a result of genetic misfortune, but instead the result of personal failure. Overweight people are perceived as failing to have sufficient self-control (Allon, 1982). They tend to over eat because they cannot stop themselves from consuming food, and eat unhealthy foods because they cannot resist the allure of food with low nutritional value. The more people value self-control, the more they tend to believe that overweight people have brought this negative outcome on themselves (Crandall et al., 2001; Quinn & Crocker, 1998). As a result, overweight people are often punished or ignored for their excessive weight and minimal sympathy is directed toward them. That is, the mistreatment they receive is perceived as being acceptable.

Not only does the general public have the perception that overweight people deserve negative outcomes due to their lack of self-control, even overweight people tend

to believe that they are the ones to blame for their [over]weight issue (Durso & Latner, 2008). It has been shown that overweight people tend to internalize and accept this bias against overweight people. They believe that they do not deserve respect from others because they are overweight. Furthermore, the more they internalize such beliefs, the more likely they are to experience negative psychological issues such as low self-esteem and depression. Durso and Latner's (2008) research revealed that overweight people agreed with the beliefs that lead to weight-based discrimination even when they are the direct victims of it. This further contributes to the legitimatization of weight-based discrimination.

Although counter to the prevailing colloquial understanding, some forms of discrimination are seen as legitimate (DePaulo, Morris, 2006; Morris, Sinclair & DePaulo, 2007). Morris and colleagues (2007), for example, found that that prejudice and discrimination against singles in areas such as housing policy. Specifically, single people are more likely to be denied with rental houses and loans for house purchase than married or common-law couples. It has been argued that due to the traditional view of marriage and family that is deeply rooted in our society, people who are single are often considered less mature and undesired, thus leading to the belief that discrimination against singles is legitimate and fair (Morris et al., 2007). Akin to perceived legitimate discrimination against singles, I argue, like others (Crandall et al., 2001; Quinn & Crocker, 1998) that overweight people are "legitimately" discriminated against as a result of traditional views of acceptable body weight.

Although it is known that overweight people tend to suffer psychologically as a consequence of weight-based discrimination (e.g., low self-esteem and depression; Carr

& Friedman, 2005), a paucity of research has examined overweight people's attitudes and behaviours in response to the discrimination they face (Durso & Latner, 2008). This research aimed to fill this gap by examining how overweight people contend with the discrimination they face. I argue, like others (Sturmer & Simon, 2004), that overweight people do engage in collective action when faced with weight-based discrimination. That is, they recognize the mistreatments from society and act out to protest against such injustice (e.g., demonstration or rally). It is expected, however, that collective action occurs only when overweight people highly identify with other overweight people (i.e., feel connected with others and the group). This is because, as mentioned previously, collective action becomes more likely as identification with an underprivileged or socially disadvantaged groups increases – this to protect their social identity. It should thus follow that situations that facilitate a greater sense of connection to the group should improve the probability that a given member will engage in collective action to promote the interest of their group.

### **Ingroup Identification: The Role of Affiliation and Differentiation Needs**

Brewer (1991) has suggested that a sense of affiliation with the ingroup is not stable, i.e., contextual factors can shift one's desire to be a member of a given group. Specifically, whereas at times people feel a need for affiliation with others in their ingroup, at other times people feel a need to be unique and different from their fellow group members. Importantly, people strive to obtain equilibrium between the need for assimilation and the need for differentiation. When affiliation needs are high, members are likely to identify highly with their group. Conversely, when differentiation needs are high, motivation for identifying with a social group would be lowered, and as a

consequence, people with high differentiation needs distance themselves from their group.

To help explicate the relationship between affiliation/differentiation needs and ingroup identification, Pickett, Silver and Brewer (2002) manipulated participants' needs to assimilate and differentiate by asking them to recall a past experience where they felt different and similar to their social group. When participants were aroused with a need for differentiation, they experienced a lower sense of group inclusiveness, whereas in the need for assimilation condition, participants perceived greater levels of group inclusiveness. The researchers concluded that the arousal of the needs for assimilation and differentiation influenced people's motivation to connect with social groups. Therefore, it is believed that when group members' affiliation/differentiation needs are manipulated, their sense of connection with their respective social group will be affected. Importantly for the current research, Sahdra and Ross (2008) showed that when affiliation needs are heightened, group members are more likely to react to protect the group's social identity. Thus, one would suspect that when affiliation needs are high, group members would be especially likely to take collective action in the face of discrimination.

***Pilot Study: Assessing an Identification Manipulation among Overweight people***

Due to the prevailing feeling about weight in North American society, i.e., that being overweight is frowned upon, it is possible that overweight people will be relatively unwilling to identify with this group even in the face of heightened affiliation needs. That is, even when affiliation needs are primed, overweight people might resist identifying with other overweight people. Thus, before conducting the proposed study, I thought it is

prudent to assess whether Pickett and colleagues' (2002) identification manipulation was able to affect overweight people's affiliation/differentiation needs.

Eight female introductory psychology students (age from 18 to 34 years,  $M = 22.88$ ,  $SD = 2.53$ ) were recruited for this pilot study. Participants received .25% course credit for their participation. Participants' Body Mass Index was measured and those who weighed more than 25 were recruited.

After consenting to participate in the study, the eight overweight participants were randomly assigned to one of two conditions: Affiliation needs and control. Participants in the affiliation needs condition were asked to recall two instances from their past where they felt extremely different from other overweight individuals. According to Pickett et al. (2002), when people are made to feel different than other group members it heightens the need to affiliation or identify with that social group. In the control condition, overweight participants were asked to recall two topics they enjoyed in their Psychology course. Then participants completed two manipulation check scales. The first was a measure of ingroup identification (Cameron, 2004) and the second assessed participants' desire to affiliate with overweight individuals (constructed for the purpose of this study). All participants were fully debriefed and thanked after they completed the study.

One-way analysis of variance (ANOVA) was used to examine group differences (Affiliation – overweight vs Control) in identification and affiliation. The analysis revealed no main effect of overall ingroup identification,  $F(1, 6) = 4.67$ ,  $p = .07$ ,  $\eta_p^2 = .44$ . There was no difference in ingroup identification between participants in the affiliation condition ( $M = 3.27$ ,  $SD = .16$ ) and those in the control condition ( $M = 3.69$ ,  $SD = .41$ ). An analysis of Cameron's (2004) ingroup identification subscales (ingroup

affect, ingroup ties and centrality) was conducted. There was no main effect found in participants' ingroup affect  $F(1, 6) = .03, p = .86, \eta_p^2 = .005$ . There was no difference between participants in the affiliation condition ( $M = 2.78, SD = .22$ ) and those in the control condition ( $M = 2.83, SD = .58$ ). There was no difference in ingroup identification between participants in the affiliation condition ( $M = 3.27, SD = .16$ ) and those in the control condition ( $M = 3.69, SD = .41$ ). There was no main effect found in participants' centrality  $F(1, 6) = 1.72, p = .24, \eta_p^2 = .22$ . There was no difference between participants in the affiliation condition ( $M = 5.15, SD = .29$ ) and those in the control condition ( $M = 4.33, SD = 1.42$ ). There was no main effect found in participants' ingroup ties  $F(1, 6) = .10, p = .77, \eta_p^2 = .02$ . There was no difference between participants in the affiliation condition ( $M = 3.00, SD = .73$ ) and those in the control condition ( $M = 2.83, SD = .76$ ).

There are two possible explanations for the lack of an effect of the identification manipulation on identification and affiliation. One possible explanation is that overweight people simply do not wish to identify as being a member of an overweight group. Indeed, due to the prevailing western culture ideology, being overweight has been considered as undesirable (Crandall, 1994; McKinley & Hyde, 1996). Overweight people constantly facing the belief that weight is under self-control and they are pressured to lose weight in order to avoid stigmatization of being overweight. Thus it is believed that overweight people are less likely to identify with other overweight people. Another possibility is that identification with being a member of an overweight group of people depends on some factor not assessed in the pilot. For example, some overweight people's identification might depend on whether it is believed that weight is under a person's control, i.e., controllability might play a moderating role for the effect of the

identification manipulation on willingness to take collective action in the face of weight-based discrimination. This latter possibility is explored in more detail in subsequent sections. In addition, I outlined possible mediators of this hypothesized moderated effect.

### **Belief of weight controllability**

How do overweight people feel about the discrimination they face? And when will they take collective action in hopes of undermining rampant discrimination against overweight people? The current literature on collective action suggests that when members of disadvantaged group face discrimination, those who highly identified with their group would more likely to engage in collective action (Friedman & Leaper, 2010; Wright & Tropp, 2002). However, this might not necessarily be the case for all highly identified overweight people. If an overweight person believes that weight is under personal control, then his/her action might be directed toward losing weight instead of confronting discrimination. Indeed, due to mass media and traditional gender roles that still exist in North American society, women are especially subjected to accept the belief that their body must be thin (McKinley & Hyde, 1996). As such, when women cannot reach the societal standard for a thin female body, they might take measures to lose weight instead of taking action in the face of weight-based discrimination. Belief in weight controllability, as a result, plays an important role in either promoting or hindering overweight people from engaging in collective action upon facing weight-based discrimination.

As mentioned previously, weight controllability strongly contributes to prejudice and discrimination toward overweight people. Weiner, Perry, and Magnusson (1988) found that participants rated obese target less likeable when obesity was presented as due

to overeating and lack of exercise. Furthermore, Blaine and Williams (2004) suggested that most stigmas about being overweight are due to belief in weight controllability. In fact, they found that when reminded that weight is controllable, overweight people were less likely to contribute the negative evaluations they received were due to weight-based prejudice. In sum, when overweight people believe that their weight is under self-control (i.e., they can lose weight and avoid stigma associated with overweight), they should engage in actions to lose weight rather than taking collective action on behalf of the overweight group. Hence, when highly identified overweight people perceive their weight as controllable, they will less likely to engage in collective action because they feel they can leave the group.

To this end, in the current study, I assessed the potential interaction between group identification and perceived weight controllability on willingness to engage in collective action. Specifically, I argue that perceived controllability over one's weight plays a crucial role in the decision of overweight people to engage in collective action when facing weight-based discrimination. Identification should only lead to collective action among those overweight women who do not feel their weight is controllable (as the opportunity to engage in individual mobility is perceived to be absent). I also examined two possible mechanisms by which the ingroup identification by controllability interaction would lead to collective action: 1) coping styles and 2) how much anger is experienced due to the discrimination.

### **Coping strategies**

The impact of events such as discrimination and people's willingness to take collective action is likely dependent on their coping resources. Typically, in conjunction

with stress appraisal, individuals evaluate their coping resources and options, and hence the possibility of successfully contending with such stressful events. According to Lazarus and Folkman's (1984) transactional model, following a stressful event people make a primary appraisal of the situation. Specifically, they evaluate whether or not that event is a threat and the potential consequences. Thereafter, a secondary appraisal is made that reflects a determination of the available resources at hand to deal with such an event and a plan of action is outlined to cope with the stressor (Lyons, Mickelson, Sullivan & Coyne, 1998).

Two kinds of coping strategies that are commonly used when facing stressors: problem-focused coping and emotion-focused coping. Problem-focused coping strategies may help to alleviate the source of the stressor, whereas emotion-focused or avoidant coping strategies may reduce negative emotions generated by the stressor and bring temporary relief to individuals.

One factor that might predict whether or not a specific type of coping strategy is used is the perceived controllability of the situation. When the stressor is perceived as controllable, people adopt problem-focused coping strategies. On the other hand, when the stressor is perceived as unavoidable or uncontrollable, people tend to endure it and develop emotion-focused coping strategies to deal with it, even though it might lead to greater potential negative consequences (Folkman & Lazarus, 1985; Mallett & Swim, 2005). Within the context of whether or not to take collective action for weight-based discrimination, overweight people are likely to appraise what strategy is best to contend with the stressor.

van Zomeren and his colleagues (2008) argued that once group members identified with their ingroup, they are more likely to engage in collective actions to the extent that they adopt problem-focused coping strategies. This is because highly identified group members tend to perceive more ingroup supports and resources, which could help them to better handle the stressors by using problem-focused coping strategies. It is suggested that when overweight people believe their weight is not under personal control and they identify with other overweight people, collective actions will occur in the event of weight-based discrimination. When highly identified overweight people see the only solution to weight-based discrimination is to change other people's biased attitudes instead of alter their own weight, they would strongly commit to achieving group goals and protecting ingroup identification when facing weight-based discrimination (Ellemers, Spears & Doosje, 1999; van Zomeren et al., 2008). In contrast, when overweight people think their weight is under personal control, they might choose a strategy that can distance themselves from such discriminative events. If so, overweight people would choose leaving the stigmatized social group and less willing to take collective action in the face of weight-based discrimination regardless their level of identification with this group.

In contrast to the use of problem-focused coping (where perceived controllability is a key issue), identification with the group should be the only factor relevant to collective action when emotion-focused coping is used. That is, notions of controllability should not factor into the collective action equation. Overweight people who are reluctant to identify as an overweight person should prefer to avoid confronting weight-related stressors than confront the stressor.

Research on coping and chronic stressors (e.g., long term illness) found that people tend to use avoidance coping strategies and as a result, negative effects were associated with such coping (Lowe, Norman & Bennett, 2000; Reeve & Lincoln, 2002). Being overweight is considered as a long-term characteristic where overweight people often encounter weight-related stressors throughout their life (Mallet & Swim, 2005). As a result, overweight people who do not identify as being overweight should be more likely to use emotion-focused coping strategies to regulate their emotions caused by weight-related stressors. This is because emotion-focused coping strategies resemble individual mobility as mentioned in SIT (Tajfel & Turner, 1986), hence, overweight people who use emotion-focused coping would engage in individual action rather than collective action. Therefore, it is hypothesized that emotion-focused coping will not play a mediating role in the effect of identification as an overweight person and their willingness to engage collective action.

### **Intergroup anger**

Like methods of coping, anger appears to play an important role in responses to discrimination (Mackie et al., 2000; van Zomeren et al., 2008). Specifically, people often experience anger when confronted with discrimination (van Zomeren, Spears, Fischer & Leach, 2004; Wright, 2009). Anger towards the perpetrator group can lead to action aimed at confronting the perpetrator group member(s) who are the source of the mistreatment (Gill & Matheson, 2006; Mackie et al., 2000; Yzerbyt et al., 2002). Importantly, van Zomeren and colleagues (2008) have argued that when group identity is salient, anger can facilitate group-based action which increases the tendency to engage in collective action among disadvantaged group members. As such, it is expected that

highly identified overweight people should more likely to engage in collective action when they experienced intergroup anger. The more they identify as an overweight person, the more they should feel strong group-based anger when facing weight-based discrimination. As a result, intergroup anger should facilitate overweight people's willingness to engage in collective action.

Specifically, it was suspected that intergroup anger would only be elicited among overweight people who highly identify with their ingroup and also believe that weight is not controllable. Because highly identified overweight people who perceive weight to be uncontrollable will interpret weight-based discrimination as unacceptable and unjust, they will experience greater anger and as a result will be more willing to take actions to deal with weight-based discrimination. On the other hand, regardless of group identification, when overweight people perceive their weight to be controllable, anger will not be associated with collective action in the face of weight-based discrimination.

### **Hypotheses**

The current study examined the impact of ingroup identification on an individual's tendency to engage in collective action after facing discrimination. As ingroup identification and perception of controllability play a crucial role in the decision to engage in collective action (Wright & Tropp, 2002), it was expected that those who highly identified with overweight people and who perceive their weight to be uncontrollable would be more likely to engage in collective action. It was hypothesized that collective action against weight-based discrimination will be most likely when affiliation needs are heightened and overweight people believe that their weight is not under self-control.

Current literature has shown that when people believe that their (stigmatized) group's boundary is permeable, they tend to choose strategies to leave this group (Bettencourt, Dorr, Charlton & Hume, 2001; Wright et al., 1990). The current research predicted that if overweight people believe their weight is under personal control, they will likely choose not to take action. Thus, it was hypothesized that controllability will be a moderator of the effect of identification on willingness to engage in collective action. Specifically, the notion of controllability should interact with ingroup identification such that when highly identified overweight participants see their weight is controllable (i.e., life style, eating habits), they are more likely to engage individual actions instead of engage collective actions. It was hypothesized that only when highly identified overweight participants see their weight as uncontrollable (i.e., genetic), they would engage collective action when facing weight-based discrimination.

I also examined two possible mechanisms by which the identification (manipulated via salience of affiliation or distinctiveness needs) might lead to collective action. Specifically, I examined the mediating role of coping strategies (problem-focused and emotion-focused) and intergroup anger. Specifically, lack of controllability over one's weight would only lead to collective action to the extent that overweight women choose problem-focused coping strategies as well as the amount of intergroup anger they experienced after the weight-based discrimination (see Figure 1 and 2). Finally, it was hypothesized that emotion-focused coping strategies would not mediate the relationship between their identification as being overweight and their collective action engagement.

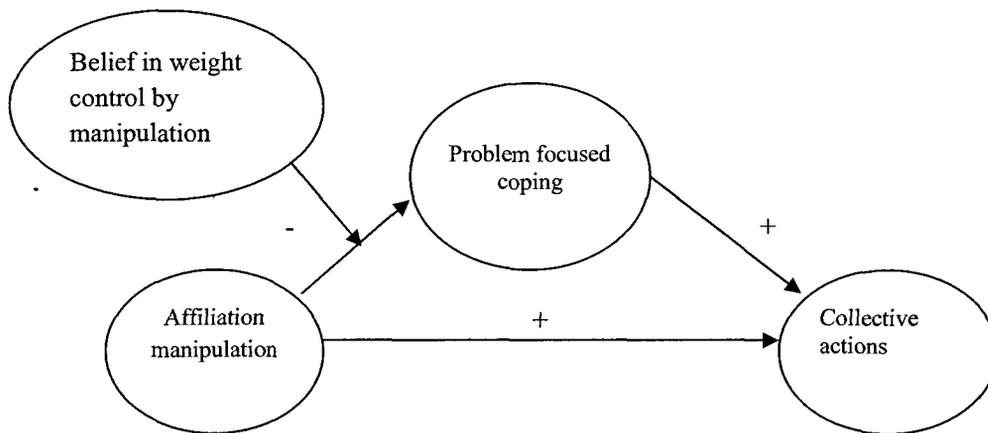


Figure 1. Moderated mediation effect: the indirect effect of problem-focused coping on participants' collective action is dependent on the degree of their belief in weight controllability.

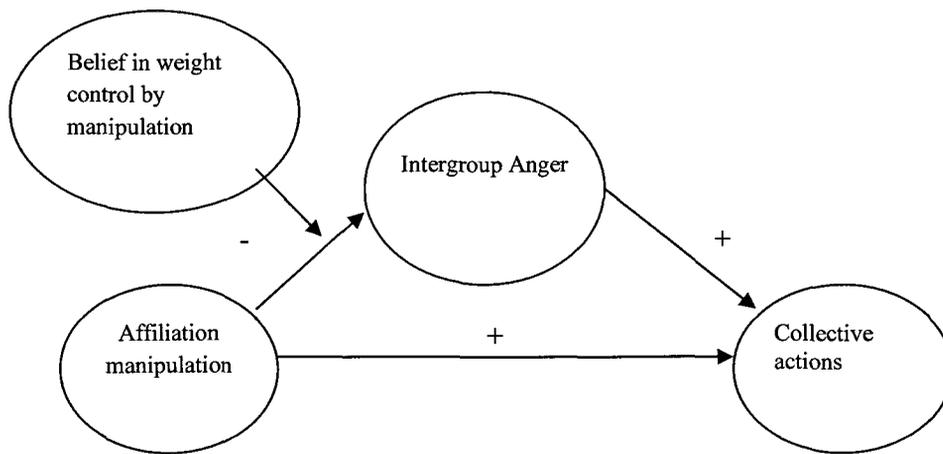


Figure 2. Moderated mediation effect: the indirect effect of anger on participants' collective action is dependent on the degree of their belief in weight controllability.

## Methods

### Participants

Sixty-five female university students enrolled in psychology undergraduate courses at Carleton University participated in the current study. Participants were recruited from the Introductory Psychology participant pool online SONA recruitment program. Participants received either 0.5% course credit or a \$10 gift certificate for their participation in the study. Participants ranged in age from 17 to 43 years ( $M = 22.79$ ,  $SD = 6.40$ ) and represented mixed racial and ethnic backgrounds, including Caucasian (53.9%), Asian (6.1%), South Asian (3.1%), South East Asian (7.7%), Black/African Canadian (7.7%), Latin American (1.5%), and Aboriginal (3.1%). An additional 16.9% indicated other or multi-ethnic.

All participants ranged in weight from 125 to 266 pounds. The BMI for the participants ranged from 26.29 to 46.98 ( $M = 31.23$ ,  $SD = 5.42$ ).

### Procedure and Design

A pre-selection session was conducted during the university's mass testing session to identify students who were female, and met the criteria for being overweight. Potential participants were contacted and asked to participate in the study during the winter, summer and fall semesters. The selection criteria for contacting female students was based on self-reported height and weight. Specifically, potential female participants' Body Mass Index (BMI; kilogram/metre<sup>2</sup>) was evaluated by the researcher. From this sample overweight females ( $n=65$ ) with a BMI index greater than 26.00. Potential participants were contacted via email and asked to participate in a study concerning 'student responses to media reports'.

The current study employed a one-way (affiliation manipulation: affiliation needs vs. differentiation needs vs. control) between-participants design. After participants agreed to participate in the study, they were provided with a website link that directed them to the online questionnaire (hosted at [surveymonkey.com](https://www.surveymonkey.com)). After reading the informed consent and agreeing to participate, they were directed to the study. The need to affiliate (or differentiate) with other overweight women was then manipulated using instructions designed to arouse affiliation (or differentiation) needs (Pickett et al., 2002).

Specifically, overweight participants were randomly assigned to either the affiliation needs condition, the differentiation needs condition, or the control condition. Participants in the affiliation needs condition were asked to recall two instances from their past where they felt extremely different from other overweight women (the aim being to heighten affiliation needs with other overweight people). In the differentiation needs condition, participants were asked to recall two instances from their past where they felt extremely similar to other overweight women (the aim being to heighten differentiation needs with other overweight individuals). In the control condition, participants were asked to recall two topics they enjoyed in their psychology course. All participants then completed a manipulation check to assess their degree of affiliation/differentiation after the first manipulation. Afterwards, they completed a scale that assessed their identification with other overweight people.

Thereafter, participants were asked to read a fictitious news article that implied weight-based discrimination. Specifically, participants read that a new provincial legislation has been proposed to force overweight university students to enroll and complete a fitness course as a requirement for graduation. The fictitious article illustrated

the negative stereotypes about overweight people and the negative treatment of them. The article was rated by several volunteers and colleagues; the results were similar in ratings on believability, pervasiveness of discriminative act, and unjust treatment toward the target groups.

Participants then completed a battery of questionnaires. Thereafter, they were questioned about their perceived purpose of the experiment and fully debriefed.

### **Measured variables**

**Manipulation check.** As a check on the affiliation manipulation participants completed a measure of group identification. This 12-item scale was adapted from the three factor model of social identity developed by Cameron (2004). It contains three subscales that assess different aspects of social identification: ingroup ties, centrality, and ingroup affect. Participants responded on a Likert-type scale from 1 (*strongly disagree*) to 7 (*strongly agree*), and higher values indicate greater identification. Mean score of the scale ranged from 2.58 to 5.09 ( $M = 3.78$ ,  $SD = 0.54$ ). Sample items include, ingroup ties, “I have a lot in common with other overweight individuals”; centrality, “In general, being an overweight individual is an important part of my self-image” and ingroup affect, “I don’t feel good about being an overweight individual”. The group identification scale demonstrated moderate to good internal consistency in the present study (Ingroup ties,  $\alpha = .63$ ; Centrality,  $\alpha = .66$ ; Ingroup affect,  $\alpha = .86$ ).

In addition, to assess participant’s degree of affiliation/differentiation with the overweight social group after the affiliation/differentiation manipulation, five items were constructed for the purpose of this study. These items were used to measure participant’s sense of connection and affiliation with other overweight people. Responses range from 1

(*strongly disagree*) to 7 (*strongly agree*), and were scored such that higher values indicate greater affiliation willingness. Mean score on the scale ranged from 1.60 to 7 ( $M = 4.91$ ,  $SD = 1.00$ ). Examples of questions asked included: “I would have someone who is overweight as my roommate” and “I prefer to dine publicly with someone who is overweight”. The affiliation willingness measure demonstrated good internal consistency in the present study ( $\alpha = .70$ ).

**Controllability of obesity.** This 8-item scale assessed participant’s belief about the cause of being obese (Allison, Basile & Yuker, 1991). Responses range from -3 (*strongly disagree*) to +3 (*strongly agree*) with a higher value indicating the belief that obesity is the result of personal responsibility. Mean score on the scale ranged from 2.40 to 6.40 ( $M = 4.70$ ,  $SD = 0.85$ ). Examples of questions asked included: “Obesity is usually caused by overeating” and “The majority of obese people have poor eating habits that lead to their obesity”. The controllability of obesity demonstrated good internal consistency in the present study ( $\alpha = .77$ ).

**Coping strategies.** This 50-item scale assesses participants’ coping strategies when dealing with stressors due to their weight (Matheson & Anisman, 2003). Responses range from 0 (*Never*) to 4 (*Always*). Higher scores indicate that participants used of certain types of coping strategies. The scale contains 14 subscales, examples of the subscales and questions asked include: Ordinarily, in recent weeks have you (problem solving) “sought the advice of others to resolve your problems?”, (passive resignation) “tried to just take whatever came your way?” and (self-blame) “decided that your current problems are a result of your own past actions?”

An unrestricted factor analysis (FA) with principal axis extraction was performed to explore the dimensionality of the data collected from the 50-items of the coping strategies profile. The Kaiser-Meyer-Olkin measure of sampling adequacy (.81); Bartlett's test of sphericity  $\chi^2(91, N = 65) = 411.42, p < .001$ ; and determinant of the matrix (.001), each indicated that the correlation matrix was appropriate for such an analysis. An oblique rotation (promax) was selected in order to allow factors to correlate and increase interpretability of the factors. In order to determine the number of non-trivial factors to be retained various criteria were used: eigenvalues greater than two, and the Scree test (Cattell, 1966).

The FA produced two factors with eigenvalues greater than two (5.40 and 2.25) that explained 48.48% of the variance.

Ten items were loaded highly on the first factor (5.40), and three items were loaded on the second factor (2.25), and the remaining one item failed to load on either two factors. The first factor included items cognitive restructuring, avoidance, rumination, humor, emotion expression, other- blame, self-blame, emotion containment, passive resignation and wishful thinking. These items were considered as emotion-focused coping strategies and were categorized as a single variable for future analysis. The second factor included problem-solving, social support seeking and active distraction, which were categorized as problem-focused coping and was used as a single variable for future analysis. The coping strategies scale demonstrated moderate to good internal consistency in the present study (problem-focused coping,  $\alpha = .59$ ; emotion-focused coping,  $\alpha = .88$ ).

**Intergroup anger.** This 5-item scale measured the degree of anger experienced by the participant after reading the discrimination scenario. Responses range from 1 (*strongly disagree*) to 7 (*strongly agree*), where a higher score indicates a greater degree of the emotion. Mean score on the scale ranged from 1 to 7 ( $M = 4.27$ ,  $SD = 1.85$ ). Examples of emotions included: “Angry” and “Infuriated”. The intergroup anger demonstrated good internal consistency in the present study ( $\alpha = .96$ ).

**Willingness to engage collective action.** To assess participant’s intention to raise her overweight group status by engaging in collective action, this 12-item scale was adapted from measures used by Kelly and Breinlinger (1995) to examine collective action participation. Responses range from 1 (*strongly disagree*) to 7 (*strongly agree*), with a higher score indicating that participants would be more likely to engage in collective action. Mean score on the scale ranged from 1 to 6.25 ( $M = 3.55$ ,  $SD = 1.17$ ). Examples of the questions asked included “Sometimes overweight people have to break the rules to overcome the inequalities that exist” and “A radical restructuring of society is needed to overcome inequalities”. The willingness to take collective action demonstrated good internal consistency in the present study ( $\alpha = .92$ ).

## Results

### Preliminary Analyses

The data set was screened for the presence of missing data and potential outliers. In addition, the data were examined to ensure that statistical assumptions for the planned analyses were satisfied. A frequency analysis performed on each scale revealed that all values fell within the plausible maximum and minimum ranges. An inspection of missing data revealed no missing data for any of the measured variables of interest.

Prior to testing statistical assumptions, the data set divided into three conditions: affiliation needs, differentiation needs, and control condition. Homogeneity of variance was not violated for any of the measured variables as indicated by scatter plots that showed all cases were evenly scattered with no particular patterns. Bivariate scatter plots for all combinations of the nine variables were generated. None of the relationships between the variables appeared to produce the desired oval-shape distribution. Visual analysis of the variables was conducted by examining histograms, indicating a possible departure from normality for some of the variables. An examination of a statistical test of normality (Kolmogorov-Smirnov) indicated that normality was not met for affiliation needs ( $D(20) = .20, p = .04$ ), centrality [ $D(20) = .23, p = .01$ ], ingroup affect [ $D(20) = .21, p = .02$ ], and belief about obese persons [ $D(20) = .23, p = .01$ ] in the affiliation needs condition. Moreover, normality was not met for ingroup ties [ $D(21) = .21, p = .02$ ] in the differentiation needs condition. However, an examination of skewness and kurtosis values for all variables were within acceptable range.

No univariate outliers were detected when calculating z-scores to identify outlying cases, as all z-scores fell within 3.29 standard deviations above or below the mean. The dataset was then screened for multivariate outliers by calculating the Mahalanobis distances using the chi-square value of  $\chi^2(6) = 22.46, p = .001$ . This failed to identify any multivariate outliers as none of the cases were above the critical value (highest value = 1.54). Lastly, multicollinearity and singularity were assessed using Tolerance and VIF, and all VIF values for the variables were 1.00, indicating no concern for multicollinearity. Tolerance also is complimentary to VIF and values that are close to zero would be considered as problematic. All values on tolerance = 1.00, indicating not

much concern for multicollinearity. Given that these three criteria were met, multicollinearity did not appear to be an issue.

Means and Standard deviation for all measured variables by condition are presented in Table 1. Zero-order correlation among measured variables are presented in Table 2.

Table 1

*Means and Standard Deviations for Measured Variables by Condition*

	Affiliation needs	Differentiation needs	Control
<i>Ingroup ties</i>	4.29 (1.01) <sub>a</sub>	4.57 (.88) <sub>a</sub>	3.77 (1.22) <sub>b</sub>
<i>Willingness to affiliate</i>	5.17 (.82) <sub>a</sub>	5.11 (1.03) <sub>a</sub>	4.47 (1.04) <sub>b</sub>
<i>Problem-focused coping</i>	3.20 (.58) <sub>a</sub>	3.13 (.62) <sub>a</sub>	2.98 (.74) <sub>a</sub>
<i>Emotion-focused coping</i>	3.34 (.69) <sub>a</sub>	2.93 (.73) <sub>a</sub>	2.91 (.71) <sub>a</sub>
<i>Intergroup anger</i>	4.60 (1.49) <sub>a</sub>	4.14 (2.12) <sub>a</sub>	4.10 (1.91) <sub>a</sub>
<i>Collective action engagement</i>	3.49 (.97) <sub>a</sub>	3.57 (1.51) <sub>a</sub>	3.59 (.98) <sub>a</sub>

*Note.* Comparisons in each row with differing subscripts are significantly different at  $p < .05$ . Numbers in parentheses are standard deviations.

Table 2

*Zero-order correlation among Measured Variables.*

	1	2	3	4	5	6	7	8	9	10	11	12	13
<i>1. Ingroup ties</i>	-	.16	.05	.56**	.06	.21	.10	-.11	.21	.17	.17	.22	.27*
<i>2. Centrality</i>	.16	-	-.71**	.09	-.05	.27*	.22	.19	-.22	.31*	-.45**	.52**	.30*
<i>3. Ingroup affect</i>	.05	-.71**	-	.05	.19	-.18	-.10	-.07	.31*	-.30*	-.46**	-.46**	-.12
<i>4. Willingness to affiliate</i>	.56**	.09	.05	-	.12	.24	-.10	.03	.31*	.10	.13	.08	.14
<i>5. Problem-focused coping</i>	.58	-.05	.19	.12	-	.54**	-.18	.13	.23	-.26*	-.11	-.001	-.01
<i>6. Emotion-focused coping</i>	.21	.27*	-.18	.24	.54**	-	-.02	.19	.004	.07	.33**	.40**	.14
<i>7. Intergroup anger</i>	.10	.22	-.10	.18	-.18	-.02	-	-.12	.07	.31*	.08	.05	.06
<i>8. Weight controllability belief</i>	-.11	.19	-.07	.03	.13	.19	-.12	-	-.25	.03	.11	.18	-.10
<i>9. Collective action engagement</i>	.21	-.22	.31*	.31	.23	.004	.07	-.25	-	.01	.04	.08	.25*
<i>10. Anger</i>	.17	.31*	-.30*	.10	-.26*	.07	.54*	.03	.01	-	.64**	.53**	.30
<i>11. Shame</i>	.17	.49**	-.45**	.13	-.11	.33**	.23	.11	.04	.64**	-	.86**	.44**
<i>12. Guilt</i>	.22	.52**	-.46**	.08	-.005	.40**	.18	.18	.08	.53**	.86**	-	.41**
<i>13. Past weight-based discrimination experience</i>	.27*	.30*	-.12	.14	-.08	.14	.06	-.10	.25*	.27*	.44**	.41**	-

\*  $p < .05$ , \*\*  $p < .01$ .

**Manipulation check.** The effect of experimental condition on participants' identification with their ingroup was investigated using a one-way ANOVA with the affiliation needs, differentiation needs, and control conditions as between subject independent variables. The analysis revealed a significant main effect of ingroup ties,  $F(2, 64) = 3.25, p = .05, \eta_p^2 = .10$ . Post-hoc analysis showed that participants indicated significantly higher ingroup ties with other overweight women in the differentiation needs condition ( $M = 4.57, SD = .88$ ) than in the control condition ( $M = 3.77, SD = 1.22$ ),  $p = .04$ . Importantly, however, there was no significant difference between the differentiation needs condition and either the affiliation needs condition ( $M = 4.29, SD = 1.01$ ),  $p = .67$ , or the control condition,  $p = .24$  (see Table 1). The analysis failed to reveal a main effect on centrality,  $F(2, 64) = 0.54, p = .59, \eta_p^2 = .02$ , or ingroup affect,  $F(2, 64) = 0.50, p = .95, \eta_p^2 = .001$ .

A univariate ANOVA was also conducted on willingness to affiliate with ingroup members revealed a significant main effect on the affiliation manipulation,  $F(2, 64) = 3.48, p = .04, \eta_p^2 = .10$ . Post-hoc analysis revealed a significant difference between the affiliation needs condition ( $M = 5.17, SD = .82$ ) and the control condition ( $M = 4.47, SD = 1.04$ ),  $p = .05$ . Importantly, again results did not indicate a significant difference between the affiliation needs condition and the differentiation needs condition ( $M = 5.11, SD = 1.03$ ),  $p = .97$ . Further, there was no significant difference between the differentiation needs condition and the control condition,  $p = .08$  (see Table 1).

**Problem-focused coping.** Results yielded a non-significant main effect of the affiliation manipulation,  $F(2, 59) = .64, p = .53, \eta_p^2 = .02$ . For exploratory purposes, post-hoc analyses revealed that there was no significant difference in adopting problem-

focused coping strategies among participants in the affiliation needs condition ( $M = 3.20$ ,  $SD = .58$ ), the differentiation needs condition ( $M = 3.13$ ,  $SD = .62$ ) and control condition ( $M = 2.98$ ,  $SD = .74$ ).

**Emotion-focused coping.** Results yielded a non-significant main effect of the affiliation manipulation,  $F(2, 59) = 2.37$ ,  $p = .10$ ,  $\eta_p^2 = .07$ . For exploratory purposes, post-hoc analyses revealed that there was no significant difference in using emotion-focused coping strategies among participants in the affiliation needs condition ( $M = 3.34$ ,  $SD = .69$ ), the differentiation needs condition ( $M = 2.93$ ,  $SD = .73$ ) and control condition ( $M = 2.91$ ,  $SD = .71$ ).

**Intergroup anger.** Results yielded a non-significant main effect of the affiliation manipulation,  $F(2, 62) = .49$ ,  $p = .61$ ,  $\eta_p^2 = .02$ . For exploratory purposes, post-hoc analyses revealed that there was no significant difference in experiencing intergroup anger among participants in the affiliation needs condition ( $M = 4.60$ ,  $SD = 1.49$ ), the differentiation needs condition ( $M = 4.14$ ,  $SD = 2.12$ ) and the control condition ( $M = 4.10$ ,  $SD = 1.91$ ).

**Willingness to engage collective action.** Result indicated no significant main effect of willingness to take collective action,  $F(2, 64) = .047$ ,  $p = .95$ . For exploratory purposes, post-hoc analyses revealed that there was no significant difference in willingness to engage collective action after weight-based discrimination among participants in the affiliation needs condition ( $M = 3.49$ ,  $SD = .97$ ), the differentiation needs condition ( $M = 3.57$ ,  $SD = 1.51$ ) and the control condition ( $M = 3.59$ ,  $SD = .98$ ; see Table 1).

**Test of Moderation**

Collective action was subjected to a moderation analysis. Weight controllability belief was centered and a condition by weight controllability belief interaction variable was computed. The collective action engagement scores were regressed on the affiliation manipulation (control = 0, affiliation needs = 1, distinctiveness needs = -1), the centered weight controllability belief and the interaction term,  $R^2 = .09$ ,  $F(3, 58) = 1.93$ ,  $p = .14$ . The main effect of the affiliation manipulation was not a significant predictor of collective action engagement,  $\beta = -.001$ ,  $t(58) = -.012$ ,  $p = .99$ . Weight controllability belief also did not predict collective action,  $\beta = -.22$ ,  $t(58) = -1.73$ ,  $p = .10$ . The conditional effect by centered weight controllability belief interaction did not yield significance either,  $\beta = .18$ ,  $t(58) = 1.38$ ,  $p = .17$ .

Problem-focused coping was also subjected to moderation analysis. Problem-focused coping was regressed on the affiliation manipulation (control = 0, affiliation needs = 1, distinctiveness needs = -1), the centered weight controllability belief and the interaction term,  $R^2 = .04$ ,  $F(3, 58) = .75$ ,  $p = .53$ . The main effect of the affiliation manipulation was not a significant predictor of problem-focused coping,  $\beta = .20$ ,  $t(58) = 1.12$ ,  $p = .27$ . Weight controllability belief also did not predict problem-focused coping,  $\beta = .10$ ,  $t(58) = 1.01$ ,  $p = .32$ . The conditional effect by centered weight controllability belief interaction did not yield significance either,  $\beta = -.01$ ,  $t(58) = -.11$ ,  $p = .92$ .

Emotion-focused coping was also subjected to moderation analysis. Emotion-focused coping was regressed on the affiliation manipulation (control = 0, affiliation needs = 1, distinctiveness needs = -1), the centered weight controllability belief and the interaction term,  $R^2 = .07$ ,  $F(3, 58) = 1.41$ ,  $p = .25$ . The main effect of the affiliation

manipulation was not a significant predictor of emotion-focused coping,  $\beta = .24$ ,  $t(58) = 1.24$ ,  $p = .22$ . Weight controllability belief also did not predict emotion-focused coping,  $\beta = .15$ ,  $t(58) = 1.42$ ,  $p = .16$ . The conditional effect by centered weight controllability belief interaction did not yield significance either,  $\beta = -.09$ ,  $t(58) = -.74$ ,  $p = .46$ . Finally, intergroup anger was subjected to moderation analysis. Intergroup anger was regressed on the affiliation manipulation (control = 0, affiliation needs = 1, distinctiveness needs = -1), the centered weight controllability belief and the interaction term,  $R^2 = .07$ ,  $F(3, 61) = 1.41$ ,  $p = .25$ . The main effect of the affiliation manipulation was not a significant predictor of intergroup anger,  $\beta = .17$ ,  $t(61) = .35$ ,  $p = .73$ . Weight controllability belief also did not predict intergroup anger,  $\beta = -.20$ ,  $t(61) = -.75$ ,  $p = .47$ . The conditional effect by centered weight controllability belief interaction did not yield significance either,  $\beta = .51$ ,  $t(61) = 1.72$ ,  $p = .09$ . Since weight controllability belief did not establish a moderation relationship between the affiliation manipulation and the dependent variables, namely problem-focused coping, emotion-focused coping, intergroup anger, and collective action engagement, further steps of moderated-mediation analysis could not be carried out.

### Discussion

Many overweight people face mistreatment and discrimination because of their weight (Puhl & Brownell, 2001; Solovay, 2000). The mistreatment and the stigma toward people who are overweight stem from the fact that North American society legitimates discrimination against them. Weight-based discrimination is related to both poor health care and quality of life (Crandall, 1994; Puhl & Brownell, 2001). The current research

investigated whether ingroup identification influences the willingness of overweight people to engage in collective action when faced with weight-based discrimination.

While previous findings (Pickett et al., 2002; Sadrah & Ross, 2007) showed that people's levels of group identification were higher when their affiliation needs were aroused than when their differentiation needs were aroused, the current research revealed that levels of group identification among overweight women's were influenced neither by their affiliation needs nor their differentiation needs. ODT suggests that group members' motivation to identify with their group will be increased based on their affiliation or differentiation needs. This finding on overweight participants is inconsistent to what would have been predicted based on the optimal distinctiveness theory (ODT; Brewer, 1991).

In the present study, the instructions from the affiliation manipulation perhaps reminded participants to think about their own weight. It is possible that instead of arousing the needs for affiliation/differentiation, these instructions may have inadvertently increased the salience of weight itself. As such, participants may have been preoccupied with thoughts of their weight and as a result, they did not respond to specific instructions that were intended to arouse their affiliation/differentiation needs. Specifically, it was suspected that once participants were reminded that they are overweight (as mentioned during the affiliation manipulation), their attention was occupied with thoughts about their weight (i.e., rumination about their weight) that they might not have contemplated previously. Such cognitive attention could have distracted them from paying attention to needs that the manipulation was meant to arouse. Indeed, one participant stated during the post-study feedback section that she had never really

considered herself to be overweight. She was astonished when she realized she was being categorized as overweight and this preoccupied her while completing the questionnaire. Such a response is in line with a recent study that showed 23% of overweight people did not perceive themselves as overweight (Rahman & Berenson, 2010). Moreover, they do not perceive there to be a social group for overweight people. If this were the case with the participants in the current study, the manipulation, which focuses on needs to affiliate with a social group of overweight people, would necessarily have been ineffective.

Interestingly, the results also indicated that overweight participants were not willing to engage in collective action after facing weight-based discrimination. It is speculated that overweight participants accepted such discriminatory acts. Indeed, according to Durso and Latner (2008), overweight people tend to internalize that being overweight is undesirable. This belief could contribute to the legitimization of weight-based discrimination and prevent overweight people to engage in collective action. Once overweight people agree with the belief that being overweight is undesirable, they would also accept mistreatments based on their weight. Thus, instead of taking actions to protect the status of overweight people as a group, they would rather find ways to leave this group because weight is perceived as something that one can control.

As weight-based discrimination stemmed from ideologies that people are responsible for their own outcomes (Crandall, 1994), most stigmas about being overweight are due to belief in weight controllability (Blaine & Williams, 2004). It is believed that weight controllability contributes to weight-based discrimination as well as prevents overweight people from engaging in collective action when facing weight-based discrimination. It was suspected that overweight participants were not willing to engage

in collective action to confront weight-based discrimination because they might believe that they could have avoid weight-based discrimination have they had taken actions to lose weight. Blaine and Williams (2004) found that overweight people were more likely to blame the negative treatments they received on their weight when they were reminded that weight is controllable. This further supports the notion that overweight people would consider weight-based discrimination as legitimate. Once overweight participants believe that weight-based discrimination is acceptable, they would have no intention to engage in collective action.

### **Implications**

The current research has important implications for overweight people's perception of themselves as a social category. Although the study did not produce the expected effect from the affiliation/differentiation needs manipulation, I speculated that several contextual factors could enhance overweight people's social identification (Kempeier & Simon, 2001). It is possible that the manipulation instruction in the current study reminded participants that they are overweight individually. Perhaps the awareness of group-based action on behalf of overweight people (e.g., a rally against weight-based discrimination) might help overweight people to identify with other overweight people and feel the need to affiliate. Kempeier and Simon (2001) suggested that both motivational and cognitive factors are required for the process of forming a social group. Factors such as positive social identity, category salience, common goals, and group membership accessibility are required for people to see themselves from individuals to members of a social group. It is possible that in the current study participants were reminded about their weight only at the level of their individual identity. Thus, social

identity did not play a role in this process, which explains why group identification did not predict overweight people's willingness to engage in collective action after facing weight-based discrimination.

### **Future directions**

Given the absence of manipulation effects in the present study, future research is needed to understand when overweight people will take collective action against weight-based discrimination. For instance, researchers could investigate factors that motivate overweight people to affiliate with overweight social groups, such as Council of Size and Weight Discrimination, and National Association to Advance Fat Acceptance, which both recognize the negative impacts of weight-based discrimination and advocate for fair treatment toward overweight people. When people who are overweight acknowledge that their weight is uncontrollable and that discrimination based on weight is unacceptable, they might be more inclined to identify with such social groups. Moreover, researchers should investigate factors that can help reduce negative self-stereotypes concerning being overweight. Both strategies could help enhance overweight people's identification with other overweight people. Group identification will facilitate overweight people's connection to overweight groups that promote collective action against weight-based discrimination and seek to increase the social status of overweight people as a collective entity.

Indeed, a heightened social identity is a crucial component in the promotion of engagement in collective action that aims to reduce mistreatment due to weight-based discrimination (Wright & Tropp, 2002). Researchers should also adopt a better affiliation manipulation in order to reach the expected effect, that is, heightened group

identification. Researchers might want to adopt Sahdra and Ross's (2007) modified affiliation manipulation instruction as participants in their study showed greater ingroup identification as a result of the manipulation. It is possible that the current study's manipulation instruction, for example, "*think of times and situations where you felt that you did not fit in with overweight women and that you stuck out*" did not reach expected effect of heighten overweight participant's affiliation needs. However, if future research could adopt Sahdra and Ross' modified manipulation instruction, they could possibly heighten participants' affiliation needs with other overweight people. A modified instruction such as "*think of a time you feel too different from other overweight women, so different that you felt uncomfortable*" might be able to heighten overweight people's affiliation needs and as a result, heighten their ingroup identification.

Future research might investigate whether the manipulation of weight controllability affects overweight people's reaction to weight-based stigmatization. Blaine and Williams (2004) found that overweight participants who read an article where weight was presented as something that is uncontrollable perceived higher levels of prejudice than those who read an article where weight was presented as something that is controllable. Future study should also investigate whether beliefs about weight controllability influence engagement in collective action via identification with overweight people. Finally, as self-efficacy plays an important role in individuals' ability to modify their health behaviours (Conner & Norman, 2005), future research might want to examine the impact of overweight people's level of self-efficacy on their capacity to lose weight and their beliefs about weight controllability.

### **Limitations**

This study has several limitations. First, the sample used in the current study consisted of undergraduate students and one may argue that the results cannot be generalized to other populations (Elmes, Kantowitz & Roediger III, 2006). It could also be argued that undergraduates make up a biased sample since their average characteristics do not represent society in terms of age, intelligence, attitudes, etc. However, as most research on overweight people was conducted among specific samples such as clinically obese patients (Myers & Rosen, 1999) or “fat acceptance” interest group (Myers & Rothblum, 2004), the current study provided the opportunity to investigate the issue of being overweight among university students. Moreover, as more young adults are becoming overweight/obese (Tjepkema, 2004), it is crucial to examine the psychological and physiological consequences of being overweight among university students. Notwithstanding, future research is needed to verify the results in different community samples.

Second, the current study was completed through self-report. Although the measures demonstrated good reliability, it is possible that some participants may not have answered the questions truthfully, particularly when the questions involved one’s weight. Some participants may have provided biased responses toward weight-related issues. However, because a cover story was included at the beginning of the study, so participants did not know the true purpose of this study when they started, it was believed that the measures would capture their responses accurately. Moreover, most research on weight-related issues have used self-report assessment methods, suggesting that self-report data is commonly used in this field.

## **Conclusion**

Prejudice and discrimination against overweight people remain widespread and it is critical to find ways to address the negative consequences of being obese/overweight without further stigmatizing overweight people. Weight-based discrimination is a serious social problem that has detrimental consequences for overweight people. Although the current study did not support the hypothesis that group identification influences overweight people's willingness to engage in collective action after encountering weight-based discrimination, the findings suggest that one explanation might be that people do not perceive overweight people as a socially categorized group and therefore do not respond to induced-needs for affiliation/differentiation. Future research should focus on the process that facilitates the creation of the social category of overweight. It is believed that once overweight people identify with other overweight people, they would engage in collective action when facing weight-based discrimination and raise their social status. This could reduce societal mistreatment and injustice against overweight people.

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## Appendix A: Email Recruitment

Hi,

My name is Leo Kiu, I am a graduate student and a researcher from the Psychology Department. I was wondering if you would like to participate in a follow-up study from the Mass testing you have completed in the Fall semester of 2009. In this study we are interested in various characteristics of individuals and how these influence reactions to potential academic and social policies. These characteristics might include your gender, ethnicity, physical fitness including weight, health status, and so on.

It is an online survey that assessing your response to a media report describing recent legislation affecting university students. We will also be asking about your personal information (e.g., identity, personal positive and negative social experiences). This survey will take you approximately 60 minutes to complete it and you will receive .5% of Sona credit for the completion of this study; or a \$10 gift certificate if you do not want the credit. If you are still interested in this study, please contact me and I will provide you with the web link for this study.

Sincerely,

Leo Kiu

## Appendix B: Informed Consent

*The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent has to provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.*

**Study title:** Students response to Media reports

**Study personnel:** Leo Kiu (Researcher, 613-520-2600 ext. 6312)  
Dr. Michael Wohl (Faculty Investigator, 613 520-2600 ext. 2908)  
Dr. Kim Matheson (Faculty Investigator, 613 520-2684).

**If you have any ethical concerns about how this study was run please contact:** Dr. M. Sénéchal, Chair of Carleton University Ethics Committee for Psychological Research, 613-520-2600 ext. 1155 or Dr. J. Mantler, Chair of Dept. of Psychology, 613-520-2600 ext. 4173.

This study has been approved by the Carleton University Ethics Committee for Psychological Research.

**Purpose and Task Requirements:** In this online study you will first be asked to describe events from your past concerning your relationships to other people or to your academic studies. Afterwards, you will be asked to read a news article that describes recent provincial legislation that affects university students, and to complete a series of questionnaires that reflect your opinions and responses to the article. You will also be asked some personal information (e.g., gender, weight, physical activity, your identity and affiliation with others who might be viewed as similar to you on particular characteristics, as well as positive and negative personal social experiences). The whole study will take approximately 60 minutes to complete. You will receive .5% of course credit or a \$10 gift certificate as an appreciation for completing the questionnaires.

**Potential Risk and Discomfort:** There are no physical risks in this study. There may be some emotional discomfort when you read the news report, as well as when recalling past personal experiences.

**Anonymity/Confidentiality:** The data collected in this study will be kept confidential. You will be assigned with a participant code and only this code will be attached to your data. Your personal information is stored in a separate computer file from your responses to the questionnaires. All data are stored in a secure location that will only be accessible to the researchers and research assistants involved in this study.

**Right to Withdraw:** Your participation in this study is entirely voluntary. At any point during the study you have the right to not provide certain information or to withdraw entirely without penalty.

*I have read the above description of the study concerning response to a media report. The data collected will be used in research publications. My selection of "Agree"*

*indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.*

Participant name: \_\_\_\_\_

Participant student number: \_\_\_\_\_

## Appendix C: Group Identification Manipulation

Instruction for needs to *assimilate*:

*Please take a moment and think of times when you felt very different from women (including your friends) who are overweight. In other words, think of times and situations where you felt that you did not fit in with overweight women and that you “stuck out”. Please write a brief description of **two** memories of such times.*

Instruction for needs to *differentiate*:

*Please take a moment and think of times when you felt very similar to women (including your friends) who are overweight. In other words, think of times and situations where you felt that you fit in with overweight women who were around you and that you were one of them. Please write a brief description of **two** memories of such times.*

Instruction for control condition:

*Please take a moment and think of times when you enjoyed your psychology course at Carleton University. Please write a brief description of **two** memories of such times.*

## Appendix D: Discrimination Vignettes

Vignette: Weight-based discrimination

## **New Fitness classes brings controversies among Ontario students**

By Brian Oslaw

Published: June 13, 2009

Starting in September 2011, Ontario universities and colleges will require students who are overweight to take a mandatory weight-loss course, called "Fitness for Life", in order for them to earn their degree. The proposed regulation will require students at post-secondary institutions (i.e., colleges and universities) with a body mass index of 30 or above, to take this course, and those who are assigned to the class but do not complete it cannot graduate starting in the fall semester of 2011.

Canada has an increasing epidemic of obesity. The National Population Health Survey (NPHS) reports that an estimated 35% of Canadians who were overweight had become obese from 1998/99 to 2006/07. Statistics Canada has recently released that an estimated 51.3 million dollars has been spent on medical costs for treating obesity in Canada in the past year. Another 27.6 million dollars also added to the indirect cost of obesity. As more people chose fast food and less exercise, more people are becoming overweight, and more obesity related diseases that require medical attention. However, a poll has shown 69% of the Canadians think treatments for overweight population wastes current Canadian's medical resources which could be better used on people who are not overweight.

Compared to the average weight population, most overweight people have common habits that lead to bad health and other undesired characteristics such as not exercising regularly, ordering more fast food than average-sized people, and choosing junk food over vegetables. These habits strongly contribute to worse physical conditions. Moreover, Science Daily reports that overweight people have more bad breath and other body odours than others. As more people become overweight in their 20's in Canada, more burden will appear for the Canadian health system if these individuals don't change their unhealthy habits. This is the main reason Ontario proposed this legislature as to prevent the cost of obesity the younger population.

The associate deputy Minister of Health says the proposed course has a responsibility to monitor students' weight and health, "University students should obtain a healthy lifestyle while they are studying in universities. Granted it's radical and it's going to be controversial -- this is the province's approach to try to begin to directly address obesity, and to create longer run cuts to the cost of health care", the deputy said.

## Appendix E: Measures

**Three Factor Model of Social Identification Scale**

I have a lot in common with other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often think about the fact that I am an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I feel strong ties to other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel good about being an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I find it difficult to form a bond with other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

The fact that I am an overweight individual rarely enters my mind.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often regret that I am an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, being an overweight individual is an important part of my self-image.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, I'm glad to be an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel a sense of being "connected" with other overweight individuals.

1            2            3            4            5            6            7  
Strongly Disagree            Neither Disagree or Agree            Strongly Agree

Overall, being an overweight individual has very little to do with how I feel about myself.

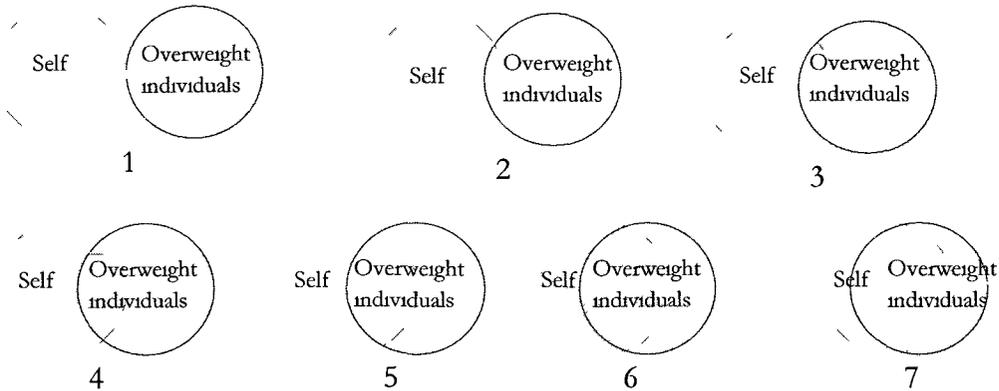
1            2            3            4            5            6            7  
Strongly Disagree            Neither Disagree or Agree            Strongly Agree

Generally, I feel good when I think about myself as an overweight individual.

1            2            3            4            5            6            7  
Strongly Disagree            Neither Disagree or Agree            Strongly Agree

**Desire to Affiliate with social group**

Please circle the number in corresponding to the picture below which you feel best represents your sense of connection to overweight individuals:



Please circle the most appropriate response below:

If I walked into a room full of overweight people, I would leave the room.  
 1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I would have someone who is overweight as my roommate.  
 1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I avoid people who are overweight.  
 1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I prefer to dine publicly with someone who is overweight.  
 1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

## Manipulation Checks

In response to what you've read, please answer the following questions.

The issue discussed in this article is unjust.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

The issue discussed in this article is discriminatory.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

The issue discussed in this article has an impact on my group identity.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

After reading this article, I feel enraged.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

After reading this article, I feel angry.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

After reading this article, I feel frustrated.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

### Beliefs About Obese Persons Scale

Please mark each statement below in the left margin, according to how much you agree or disagree with it. Please choose the number that you choose to show whether you agree or disagree.

1. Obesity often occurs when eating is used as a form of compensation for lack of love or attention.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

2. In many cases, obesity is the result of a biological disorder.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

3. Obesity is usually caused by overeating.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

4. Most obese people cause their problem by not getting enough exercise.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

5. Most obese people eat more than non-obese people.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

6. The majority of obese people have poor eating habits that lead to their obesity.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

7. Obesity is rarely caused by a lack of willpower.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

8. People can be addicted to food, just as others are addicted to drugs, and these people usually become obese.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

**Mood**

Using the rating scale beside each item, please indicate how much each adjective describes **how you feel about being considered among those who are overweight**. There are no right or wrong answers, we just want you to be as honest as possible in indicating how you're feeling **right now**.

Afraid.....	Not at all	0	1	2	3	4	5	6	Extremely
Angry.....	Not at all	0	1	2	3	4	5	6	Extremely
Annoyed.....	Not at all	0	1	2	3	4	5	6	Extremely
Anxious.....	Not at all	0	1	2	3	4	5	6	Extremely
Ashamed.....	Not at all	0	1	2	3	4	5	6	Extremely
Contempt.....	Not at all	0	1	2	3	4	5	6	Extremely
Depressed.....	Not at all	0	1	2	3	4	5	6	Extremely
Disdain.....	Not at all	0	1	2	3	4	5	6	Extremely
Disgust.....	Not at all	0	1	2	3	4	5	6	Extremely
Distressed.....	Not at all	0	1	2	3	4	5	6	Extremely
Embarrassed.....	Not at all	0	1	2	3	4	5	6	Extremely
Enraged.....	Not at all	0	1	2	3	4	5	6	Extremely
Frustrated.....	Not at all	0	1	2	3	4	5	6	Extremely
Guilty.....	Not at all	0	1	2	3	4	5	6	Extremely
Happy.....	Not at all	0	1	2	3	4	5	6	Extremely
Helpless.....	Not at all	0	1	2	3	4	5	6	Extremely
Hostile.....	Not at all	0	1	2	3	4	5	6	Extremely
Humiliated.....	Not at all	0	1	2	3	4	5	6	Extremely
Indifferent.....	Not at all	0	1	2	3	4	5	6	Extremely
Infuriated.....	Not at all	0	1	2	3	4	5	6	Extremely
Inspired.....	Not at all	0	1	2	3	4	5	6	Extremely
Irritable.....	Not at all	0	1	2	3	4	5	6	Extremely
Proud.....	Not at all	0	1	2	3	4	5	6	Extremely
Regretful.....	Not at all	0	1	2	3	4	5	6	Extremely
Responsible.....	Not at all	0	1	2	3	4	5	6	Extremely
Sad.....	Not at all	0	1	2	3	4	5	6	Extremely
Scared.....	Not at all	0	1	2	3	4	5	6	Extremely
Strong.....	Not at all	0	1	2	3	4	5	6	Extremely
Unhappy.....	Not at all	0	1	2	3	4	5	6	Extremely
Upset.....	Not at all	0	1	2	3	4	5	6	Extremely
Worried.....	Not at all	0	1	2	3	4	5	6	Extremely



	yourself and others up?					
24.	told yourself that other people have dealt with problems such as yours?	0	1	2	3	4
25.	thought a lot about how you have brought your problems on yourself?	0	1	2	3	4
26.	decided to wait and see how things turn out?	0	1	2	3	4
27.	wished the situation would go away or be over with?	0	1	2	3	4
28.	decided that your current problems are a result of your own past actions?	0	1	2	3	4
29.	gone shopping?	0	1	2	3	4
30.	asserted yourself and taken positive action on action on problems that are getting you down?	0	1	2	3	4
31.	sought reassurance and moral support from others?	0	1	2	3	4
32.	resigned yourself to your problems?	0	1	2	3	4
33.	thought about how your problems have been caused by other people?	0	1	2	3	4
34.	daydreamed about how things may turn out?	0	1	2	3	4
35.	been very emotional in how you react, even to little things?	0	1	2	3	4
36.	decided that you can grow and learn through your problems?	0	1	2	3	4
37.	told yourself that other people have problems like your own?	0	1	2	3	4
38.	wished I was a stronger person or better at dealing with problems?	0	1	2	3	4
39.	looked for how you can learn something out of your bad situation?	0	1	2	3	4
40.	asked for God's guidance?	0	1	2	3	4
41.	kept your feelings bottled up inside?	0	1	2	3	4
42.	found yourself crying more than usual?	0	1	2	3	4
43.	tried to act as if you were not upset?	0	1	2	3	4
44.	prayed for help?	0	1	2	3	4
45.	gone out?	0	1	2	3	4
46.	held in your feelings?	0	1	2	3	4
47.	tried to act as if you weren't feeling bad?	0	1	2	3	4
48.	taken steps to overcome your problems?	0	1	2	3	4
49.	made humorous comments or wise cracks?	0	1	2	3	4
50.	told others that you were depressed or emotionally upset?	0	1	2	3	4

## Collective Action Respond to the scenario

In response to what you've read, please answer the following questions that you would do in respond to the scenario.

1. I will sign a petition to address issues that happened to people with body shape and weight problems.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

2. I will join an organization that deals with body shape and weight issues.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

3. I will attend protests or rallies about body shape and weight issues.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

4. I will vote for a political candidate when body shape and weight issues are one of his/her serious concerns.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

5. I will participate in events to raise body shape and weight issues at my university.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

6. Although I follow rules, I will speak up for overweight people even when forbidden by the rules.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

7. I will work for a political party when one of its main objectives is to fight for people with body shape and weight issues.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

8. I will participate events to promote size acceptance (e.g. join in a demonstration or protest).

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

9. I will act as a spokesperson for a particular body shape and weight issue.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

10. I will lobby the government to improve size acceptance in Canada.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

11. I will participate in action to raise the status of overweight people even when it could've gotten me in trouble.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

12. I will contact my local MP (Members of Parliament) about promoting size acceptance.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

**Collective Action – Orientation**

Please read the following items and select the correct response below.

1. I think overweight people should organize and work together to improve their social position.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

2. While overweight people may be right to be unhappy about some aspects of their place in our society, it is wrong for them to protest loudly about this.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

3. I feel there should be more overweight people in all levels of government and politics.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

4. Sometimes overweight people have to break the rules to overcome the inequalities that exist.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

5. Overweight people will be more likely to overcome discrimination if they stop wasting time with political activities.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

6. Protests only cause more social trouble.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

7. A radical restructuring of society is needed to overcome inequalities.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

8. We cannot change the situation of overweight people's status/treatment in our society no matter what we do.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

9. Most group protests only serve to make the public see the protestors as fanatics.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

10. Overweight people should do more to raise weight awareness at my university.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

11. Overweight people need to unite and work together to achieve equal political and social rights in Canada.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

12. Overweight people will overcome discrimination by working hard and doing the best they can at their own jobs.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

## Past Experience in Weight discrimination

Please select the number that corresponds to how often you experience each event.

1. I have been called insulting names related to my weight.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

2. I hear comments from thin people expressing surprise at my or other overweight people's intelligence or industriousness.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

3. People "talk down" to me because I am overweight.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

4. I have been refused rental housing which was then later rented to thin people of similar standing (e.g., comparable family income).

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

5. I have difficulty getting a loan because I am overweight.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

6. I have had to make my speech and posture appear passive when dealing with thin people.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

7. Waiters and waitresses ignore me and serve thin people first.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

8. Thin males talk about not desiring overweight women for "serious" relationships versus those with thin women.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

9. I have had to allow my thin friends to obtain the best seats in public places.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

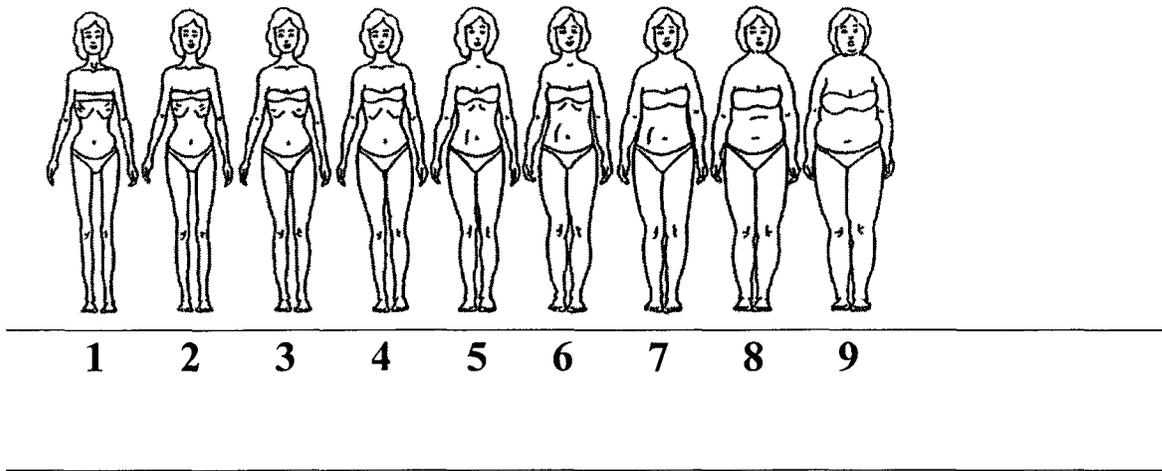
10. I have been denied hospitalization or medical care because of my weight.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

11. I have known overweight men who have suffered negative feedback after dating with thin women (being made fun with).

1	2	3	4	5
Never	Seldom	Sometimes	Often	Almost Always

## Contour Drawing Rating Scale



1. Select the silhouette that most clearly depicts your **current** body size, as you perceive it to be. \_\_\_\_\_

2. Starting with your choice in *question (1)* as a point of departure, which figure is the first to come close to the body size you **dream of being**. \_\_\_\_\_

3. Starting with your choice in *question (1)*, as a point of departure, which figure is the first to come close to the body size you **fear of being**. \_\_\_\_\_

Background and Weight Assessment

Year of study: \_\_\_\_\_ 1<sup>st</sup> year    \_\_\_ 2<sup>nd</sup> year    \_\_\_\_\_ 3<sup>rd</sup> year    \_\_\_ 4<sup>th</sup> year

What is your citizenship status?

\_\_\_\_\_ Canadian citizen

\_\_\_\_\_ Landed immigrant    Since what year? \_\_\_\_\_    Country of origin: \_\_\_\_\_

\_\_\_\_\_ Student visa    Since what year? \_\_\_\_\_    Country of origin: \_\_\_\_\_

Current weight: \_\_\_\_\_ (lb) or \_\_\_\_\_ (kg)

Current height: \_\_\_\_\_ (ft) or \_\_\_\_\_ (metres)

My height is:

1	2	3	4	5	6	7
<b>Below average</b>			<b>Average</b>	<b>Above average</b>		

My weight is:

1	2	3	4	5	6	7
<b>Below average</b>			<b>Average</b>	<b>Above average</b>		

*What is your ethnic/racial background? (Please check one)*

- Asian (e.g., Chinese, Japanese, Korean)  
 South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)  
 South East Asian (e.g., Cambodian, Indonesian, Laotian)  
 Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)  
 Black (e.g., African, Haitian, Jamaican, Somali)  
 Latin American/Hispanic  
 Aboriginal  
 White/Euro-Caucasian  
 Other (Please specify): \_\_\_\_\_

*What is your religious affiliation? (Please check one)*

- None—Atheist (e.g., belief that there is NO God)  
 None—Agnostic (e.g., belief that the existence of God cannot be known)  
 Protestant (e.g., United, Anglican, Baptist, Presbyterian, Lutheran, Pentecostal, Mennonite, “Christian”)  
 Catholic (e.g., Roman Catholic, Ukrainian Catholic)  
 Jewish  
 Muslim  
 Buddhist  
 Hindu  
 Sikh  
 Bahá’í  
 Other (Please specify): \_\_\_\_\_

*What is your first language? (Please check one)*

- English  
 French  
 Other (Please indicate): \_\_\_\_\_

*If English is your **second** language, at what level is your use of the English language? (please check one)*

- Basic (e.g., I can understand someone when they say hello or say thank you, and I am able to say hello and say thank you)  
 Minimum social skills (e.g., I can understand and ask simple questions)  
 Basic social skills (e.g., I can understand and respond if someone speaks slowly to me)  
 Moderate social skills (e.g., I can understand and respond when people talk at a normal speed to each other)  
 Native social skills (e.g., I can understand everything and talk about anything)

## Appendix F: Debriefing Information

Belonging to a stigmatized group frequently involves a range of discriminatory experiences. However, unless individuals have the resources to contend with these experiences, they may not even define them as discriminatory, but instead take them to reflect personal prejudices of the other person, or something wrong with themselves. How individuals define the experience is likely to have implications for their emotional reactions (e.g., anger or shame) and self-esteem. Having available appropriate social support resources may be integral to how the victim of discrimination appraises and responds to such experiences.

Before I go any further, I would like to tell you that deception was involved in this study. In some studies, if we tell people what the purpose of the experiment is and what we predict about how they will react under certain conditions, then they might deliberately do whatever it is they think we want them to do. If that happened, their reactions would not be a good indication of how they might react in a situation in everyday life, where they didn't think they were being studied. What would be influencing them is what they thought the purpose of our study was, rather than the specific conditions that we are trying to investigate. It is also possible that the opposite might occur and that people may think that if we predicted that they would do a certain thing, they might purposely not do that to show us we can't figure them out. That would also make the results invalid, because again what people would be responding to is what they thought we were looking for, rather than responding naturally as they would in everyday situations. You were selected for this study based on the personal information (e.g., weight, height, sex) that you have provided to us during the mass testing in Fall semester of 2009. The actual goal of this study is to assess how overweight women react when they experience a situation that is discriminatory, based on their body weight.

The media report you read regarding to a fictitious legislation that is biased against students who are overweight. Such discrimination occurs regularly, and we are interested in whether there are particular factors that make individuals more or less resilient against the negative effects such encounters can have on their well-being. Our primary interest in this study was to look at whether feeling similar to, or very different from other individuals that belong to the targeted social group (overweight women) would influence your emotional reactions, coping strategies as well as collective action endorsement after reading discriminative situation. We tried to make such similarities or differences salient to you by asking you to recall previous situations you'd been in that made you feel this way. We hope the results of this study will provide insight regarding how people try to encounter the effects of discrimination and stigma based on their body weight.

Finally, we need to ask you not to say anything about the "true purpose" of the study to anyone else who might participate in the study. If you talked to someone else who was about to be in the study and told them all the things I just told you, that would be the

same as if I told them at the beginning all about the whole purpose of the study; their reactions wouldn't be natural. If anybody who might participate asks you about the study, just tell them it was a study about response to media report.

Thank you for your participation in this study. The information you have provided is of great value to us.

### Contacts

If you have any **further questions about this study, what it means, or concerns about how it was conducted**, you are encouraged to contact the following people at any time:

Leo Kiu, Researcher, Department of Psychology  
Phone: (613) 520-2600 ext. 6312  
e-mail: [kkui@connect.carleton.ca](mailto:kkui@connect.carleton.ca)

Dr. Michael Wohl, Faculty Member, Department of Psychology  
Phone: (613) 520-2600 ext. 2908  
e-mail: [Michael\\_wohl@carleton.ca](mailto:Michael_wohl@carleton.ca)

If you have any ethical concerns about how this study was conducted, please contact either of the following:

Dr. M. Sénéchal, Chair of Carleton University Ethics Committee for  
Psychological Research, 613-520-2600 ext. 1155

Dr. J. Mantler, Chair, Dept. of Psychology, Carleton University, (613) 520-4173

If you have any **worries or concerns about your personal well-being**, you can contact the following services:

Carleton University Health and Counselling Services: (613) 520-6674

Student Life Services: (613) 520-6600

If you have any weight-related issues that were raised while completing this study, or you feel upset during or after completed this study, here are some useful links that might have helpful information for you in terms of dealing with weight issues:

<http://www.naafaonline.com/dev2/>

[http://www.yaleruddcenter.org/what\\_we\\_do.aspx?id=10](http://www.yaleruddcenter.org/what_we_do.aspx?id=10)

<http://www.whatseatingyou.com/sizeacceptance.html>

<http://www.healthateverysize.info/>

If you need to enquire about how to **report a situation of discrimination** (because of your ethnic background, religion, sex, age, sexual orientation, etc.), you can contact the following service:

Ontario Human Rights Commission: 1-800-387-9080 (toll free number).

Carleton's Womyn's Centre: 613-520-2712 [womyns\\_centre@cusaonline.com](mailto:womyns_centre@cusaonline.com)

## Informed Consent to the Use of Data

*The purpose of this informed consent is to ensure that you now understand the true purpose of the study and that you agree to allow your data to be used for research and teaching purposes. Because you were only told of the procedures and not the purpose of this study at the outset, we are now asking for your consent to allow your data to be used for research and teaching purposes.*

**Purpose.** The purpose of this study is to investigate whether your sense of connection to a group of people can be heightened when asked to think about how you are different from those people.

**Anonymity/Confidentiality.** The data collected in this study will be kept anonymous and confidential. Your consent forms will be kept separate from your responses.

**Right to withdraw data.** You have the right to indicate that you do not wish your data to be used in this study. If you indicate this is your choice, then all measures you have provided will be destroyed.

**Signatures:** I have read the above description of the study concerning media report. The data in the study will be used in research publications or for teaching purposes. My selection of “Agree” indicates that I agree to allow the data I have provided to be used for these purposes.

Full Name (Print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix G: Pilot study Materials

**Informed Consent**

*The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent has to provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.*

**Study title:** Health Inventory

**Study personnel:** Leo Kiu (Researcher, 613-520-2600 ext. 6312)  
Dr. Michael Wohl (Faculty Investigator, 613 520-2600 ext. 2908)

**If you have any ethical concerns about how this study was run please contact:** Dr. A. Parush, Chair of Carleton University Ethics Committee for Psychological Research, 613-520-2600 ext. 6026 or Dr. J. Mantler, Chair of Dept. of Psychology, 613-520-2600 ext. 4173.

**Purpose and Task Requirements:** In this study you will be asked to describe two specific events from your past that relate to other people or to your academic studies and then you will be completing a series of questionnaire regarding to your health-related issues which will also include some personal information. The whole study will take approximately 30 minutes to complete. You will receive .5% of course credit for completing the questionnaires.

**Potential Risk and Discomfort:** There may be some emotional discomfort when thinking about your health behaviours as well as personal experiences when thinking about past events with other people while completing some of the questionnaires.

**Anonymity/Confidentiality:** The data collected in this study will be kept confidential. You will be assigned with a participant code and only this code will be attached to your data. Your personal information is stored in a separate computer file than the information provided in the questionnaires. All data are stored in a secure location that will only be accessible by the researchers and research assistants involved in this study.

**Right to Withdraw:** Your participation in this study is entirely voluntary. At any point during the study you have the right to not provide certain information or to withdraw entirely without penalty.

*I have read the above description of the study concerning social group affiliation. The data collected will be used in research publications. My signature indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.*

Participant name: \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher Signature: \_\_\_\_\_

Date: \_\_\_\_\_

### Health Survey

Instructions for completing the questionnaire: Please answer every question. Some questions may look like others, but each one is different. Please take the time to read and answer each question carefully by circling the most representative response.

1. In general, would you say your health is:

Excellent                      Very good                      Good                      Fair                      Poor

2. Compared to one year ago, how would you rate your health in general now?

- Much better now than a year ago
- Somewhat better now than a year ago
- About the same as one year ago
- Somewhat worse now than one year ago
- Much worse now than one year ago

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf?

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

c. Lifting or carrying groceries.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

d. Climbing several flights of stairs.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

e. Climbing one flight of stairs.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

f. Bending, kneeling or stooping.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

g. Walking more than one mile.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

h. Walking several blocks.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

i. Walking one block.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

j. Bathing or dressing yourself.

- Yes, limited a lot.
- Yes, limited a little.
- No, not limited at all.

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

a. Cut down the amount of time you spent on work or other activities?

Yes            No

b. Accomplished less than you would like?

Yes            No

c. Were limited in the kind of work or other activities

Yes            No

d. Had difficulty performing the work or other activities (for example, it took extra time)

Yes            No

5. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

a. Cut down the amount of time you spent on work or other activities?

Yes            No

b. Accomplished less than you would like

Yes            No

c. Didn't do work or other activities as carefully as usual

Yes            No

6. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

7. How much bodily pain have you had during the past 4 weeks?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

8. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

- Not at all
- Slightly
- Moderately
- Quite a bit
- Extremely

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks.

a. did you feel full of pep?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

b. have you been a very nervous person?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

c. have you felt so down in the dumps nothing could cheer you up?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

d. have you felt calm and peaceful?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

e. did you have a lot of energy?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

f. have you felt downhearted and blue?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

g. did you feel worn out?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

h. have you been a happy person?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

i. did you feel tired?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

10. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc.)?

- All of the time
- Most of the time
- A good bit of the time
- Some of the time
- A little of the time
- None of the time

11. How TRUE or FALSE is each of the following statements for you?

a. I seem to get sick a little easier than other people

- Definitely true
- Mostly true
- Don't know
- Mostly false
- Definitely false

b. I am as healthy as anybody I know

- Definitely true
- Mostly true
- Don't know
- Mostly false
- Definitely false

c. I expect my health to get worse

- Definitely true
- Mostly true
- Don't know
- Mostly false
- Definitely false

d. My health is excellent

- Definitely true
- Mostly true
- Don't know
- Mostly false
- Definitely false

1. How many times do you eat food in a given day? \_\_\_\_\_

2. How quickly do you eat?

1            2            3            4            5            6            7

Very slowly

Very quickly

3. I often feel like I don't want to eat

1            2            3            4            5            6            7

Strongly Disagree

Neither Disagree or Agree

Strongly Agree

4. I rarely think about the quality of the food I eat

1            2            3            4            5            6            7

Strongly Disagree

Neither Disagree or Agree

Strongly Agree

5. What time did you eat your previous meal?

Time: \_\_\_\_\_

I see myself as being:

1            2            3            4            5            6            7

**Underweight**

**Average**

**Overweight**

**If your answer ranges from 1 to 2 on item #6, please proceed to Section I ONLY.**

**If your answer ranges from 3 to 4 on item #6 , please proceed to Section II ONLY.**

**If your answer ranges from 5 to 7 on item #6, please proceed to Section III ONLY.**











**Three Factor Model**

I have a lot in common with other underweight individuals.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

I often think about the fact that I am an underweight individual.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

I feel strong ties to other underweight individuals.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

I don't feel good about being an underweight individual.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

I find it difficult to form a bond with other underweight individuals.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

The fact that I am an underweight individual rarely enters my mind.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

I often regret that I am an underweight individual.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

In general, being an underweight individual is an important part of my self-image.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

In general, I'm glad to be an underweight individual.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

I don't feel a sense of being "connected" with other underweight individuals.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Overall, being an underweight individual has very little to do with how I feel about myself.

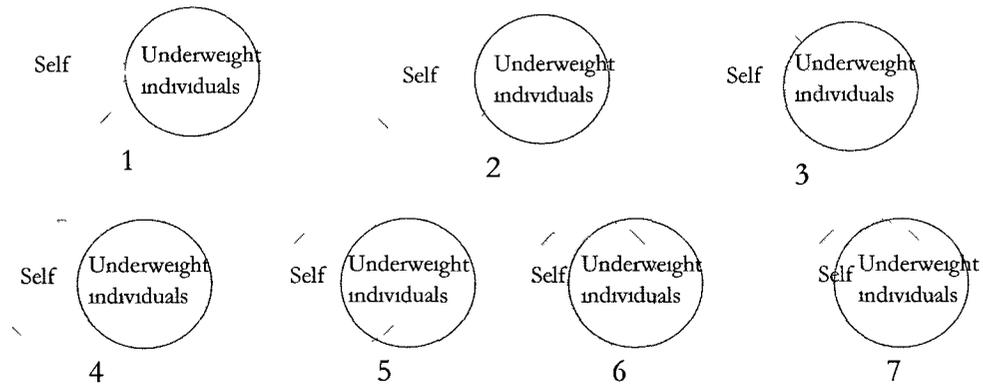
1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Generally, I feel good when I think about myself as an underweight individual.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

**Desire to Affiliate with social group**

Please circle the number in corresponding to the picture below which you feel best represents your sense of connection to underweight individuals:



Please circle the most appropriate response below:

If I walked into a room with people who are underweight, I would leave the room.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I would have someone who is underweight as my roommate.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I avoid people who are underweight.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I prefer to dine publicly with someone who is underweight.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

\*\*\*Please proceed to Section IV.

**Three Factor Model**

I have a lot in common with other average weight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often think about the fact that I am an average weight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I feel strong ties to other average weight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel good about being an average weight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I find it difficult to form a bond with other average weight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

The fact that I am an average weight individual rarely enters my mind.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often regret that I am an average weight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, being an average weight individual is an important part of my self-image.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, I'm glad to be an average weight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel a sense of being "connected" with other average weight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

Overall, being an average weight individual has very little to do with how I feel about myself.

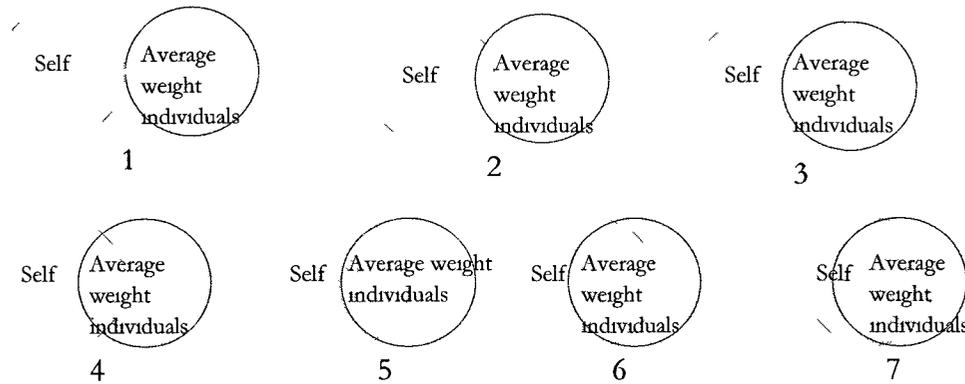
1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

Generally, I feel good when I think about myself as an average weight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

**Desire to Affiliate with social group**

Please circle the number in corresponding to the picture below which you feel best represents your sense of connection to average individuals:



Please circle the most appropriate response below:

If I walked into a room with people who are average weight, I would leave the room.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I would have someone who is average weight as my roommate.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I avoid people who are average weight.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I prefer to dine publicly with someone who is average weight.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

\*\*\*Please proceed to Section IV.

**Three Factor Model**

I have a lot in common with other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often think about the fact that I am an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I feel strong ties to other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel good about being an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I find it difficult to form a bond with other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

The fact that I am an overweight individual rarely enters my mind.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often regret that I am an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, being an overweight individual is an important part of my self-image.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, I'm glad to be an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel a sense of being "connected" with other overweight individuals.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

Overall, being an overweight individual has very little to do with how I feel about myself.

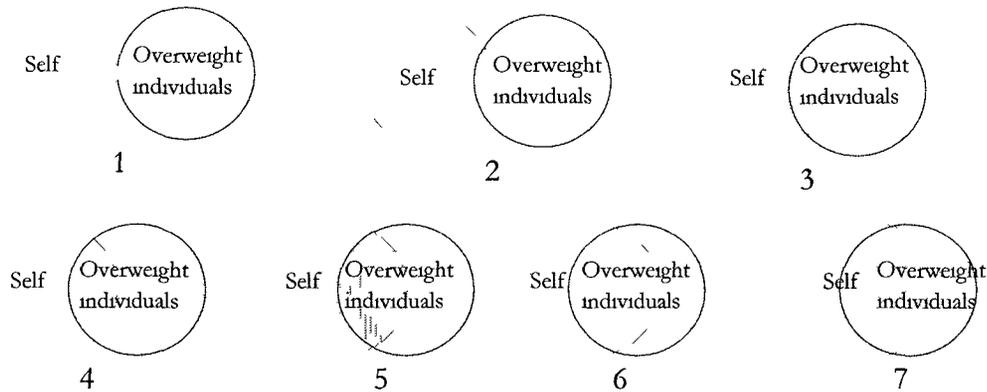
1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

Generally, I feel good when I think about myself as an overweight individual.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

**Desire to Affiliate with social group**

Please circle the number in corresponding to the picture below which you feel best represents your sense of connection to overweight individuals:



Please circle the most appropriate response below:

If I walked into a room with people who are overweight, I would leave the room.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I would have someone who is overweight as my roommate.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I avoid people who are overweight.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I prefer to dine publicly with someone who is overweight.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

\*\*\*Please proceed to Section IV.

**Three Factor Model**

Please circle the most appropriate response that best describes your identification with other women.

I have a lot in common with other women.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often think about the fact that I am a woman.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I feel strong ties to other women.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel good about being a woman.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I find it difficult to form a bond with other women.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

The fact that I am a woman rarely enters my mind.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I often regret that I am a woman.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, being a woman is an important part of my self-image.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

In general, I'm glad to be a woman.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

I don't feel a sense of being "connected" with other women.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

Overall, being a woman has very little to do with how I feel about myself.

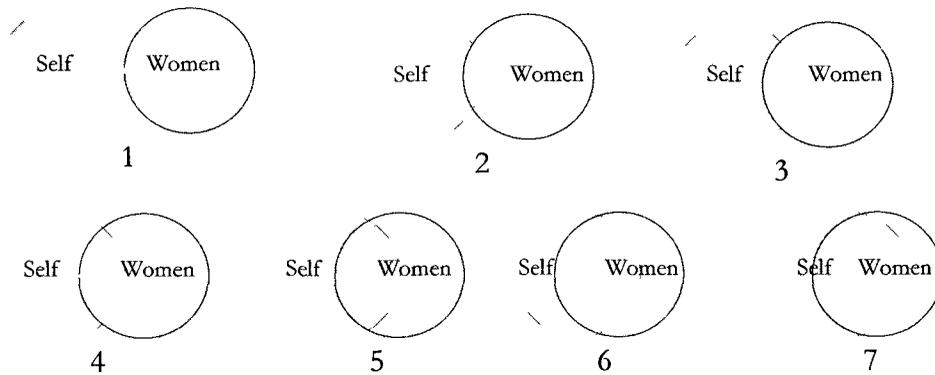
1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

Generally, I feel good when I think about myself as a woman.

1	2	3	4	5	6	7
Strongly Disagree		Neither Disagree or Agree				Strongly Agree

**Desire to Affiliate with social group**

Please circle the number in corresponding to the picture below which you feel best represents your sense of connection with women in general:



Please circle the most appropriate response below:

If I walked into a room with people who are women, I would leave the room.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I would have someone who is a woman as my roommate.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I avoid people who are women.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

I prefer to dine publicly with someone who is a woman.

1            2            3            4            5            6            7  
 Strongly Disagree      Neither Disagree or Agree      Strongly Agree

## Section IV

### Mood

---

Using the rating scale beside each item, please indicate how much each adjective describes **how you feel about being considered among those who are overweight / about being female**. There are no right or wrong answers, we just want you to be as honest as possible in indicating how you're feeling **right now**.

Afraid.....	Not at all	0	1	2	3	4	5	6	Extremely
Angry.....	Not at all	0	1	2	3	4	5	6	Extremely
Annoyed.....	Not at all	0	1	2	3	4	5	6	Extremely
Anxious.....	Not at all	0	1	2	3	4	5	6	Extremely
Ashamed.....	Not at all	0	1	2	3	4	5	6	Extremely
Contempt.....	Not at all	0	1	2	3	4	5	6	Extremely
Depressed.....	Not at all	0	1	2	3	4	5	6	Extremely
Disdain.....	Not at all	0	1	2	3	4	5	6	Extremely
Disgust.....	Not at all	0	1	2	3	4	5	6	Extremely
Distressed.....	Not at all	0	1	2	3	4	5	6	Extremely
Embarrassed.....	Not at all	0	1	2	3	4	5	6	Extremely
Enraged.....	Not at all	0	1	2	3	4	5	6	Extremely
Frustrated.....	Not at all	0	1	2	3	4	5	6	Extremely
Guilty.....	Not at all	0	1	2	3	4	5	6	Extremely
Happy.....	Not at all	0	1	2	3	4	5	6	Extremely
Helpless.....	Not at all	0	1	2	3	4	5	6	Extremely
Hostile.....	Not at all	0	1	2	3	4	5	6	Extremely
Humiliated.....	Not at all	0	1	2	3	4	5	6	Extremely
Indifferent.....	Not at all	0	1	2	3	4	5	6	Extremely
Infuriated.....	Not at all	0	1	2	3	4	5	6	Extremely
Inspired.....	Not at all	0	1	2	3	4	5	6	Extremely
Irritable.....	Not at all	0	1	2	3	4	5	6	Extremely
Proud.....	Not at all	0	1	2	3	4	5	6	Extremely
Regretful.....	Not at all	0	1	2	3	4	5	6	Extremely

Responsible.....	Not at all	0	1	2	3	4	5	6	Extremely
Sad.....	Not at all	0	1	2	3	4	5	6	Extremely
Scared.....	Not at all	0	1	2	3	4	5	6	Extremely
Strong.....	Not at all	0	1	2	3	4	5	6	Extremely
Unhappy.....	Not at all	0	1	2	3	4	5	6	Extremely
Upset.....	Not at all	0	1	2	3	4	5	6	Extremely
Worried.....	Not at all	0	1	2	3	4	5	6	Extremely

Background and Weight Assessment

Year of study: \_\_\_\_\_ 1<sup>st</sup> year \_\_\_\_\_ 2<sup>nd</sup> year \_\_\_\_\_ 3<sup>rd</sup> year \_\_\_\_\_ 4<sup>th</sup> year

What is your citizenship status?

\_\_\_\_\_ Canadian citizen

\_\_\_\_\_ Landed immigrant Since what year? \_\_\_\_\_ Country of origin: \_\_\_\_\_

\_\_\_\_\_ Student visa Since what year? \_\_\_\_\_ Country of origin: \_\_\_\_\_

Current weight: \_\_\_\_\_ (lb) or \_\_\_\_\_ (kg)

Current height: \_\_\_\_\_ (ft) or \_\_\_\_\_ (metres)

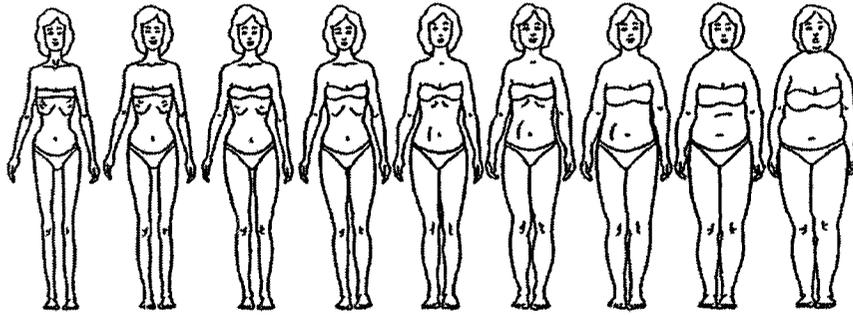
My height is:

1	2	3	4	5	6	7
<b>Below average</b>			<b>Average</b>	<b>Above average</b>		

My weight is:

1	2	3	4	5	6	7
<b>Below average</b>			<b>Average</b>	<b>Above average</b>		

## Contour Drawing Rating Scale



1 2 3 4 5 6 7 8 9

---

1. Select the silhouette that most clearly depicts your **current** body size, as you perceive it to be. \_\_\_\_\_
2. Starting with your choice in *question (1)* as a point of departure, which figure is the first to come close to the body size you **dream of being**. \_\_\_\_\_
3. Starting with your choice in *question (1)*, as a point of departure, which figure is the first to come close to the body size you **fear of being**. \_\_\_\_\_

Please stop from completing the questionnaire and read the instruction below:

At this point the experimenter would like to record your current weight and height in this lab. If you don't feel comfortable weighed by an opposite sex experimenter, we have one female research assistant is available and she can conduct this portion of the study. You will be weighed in a confidential and professional manner. This should not make you any more embarrassed or uncomfortable than you would be if you were weighed and measured at the doctor's office. Please contact and inform the experimenter whether you are willing to be weighed or not.



**Experiment Evaluation**

We would like to make sure that you understood the nature of this study. To do so, we'd like you to complete the following questions. Point form responses are fine.

1. In your opinion, what was this study about?

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2. What do you think we hope to find?

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3. Is there anything about the conduct of this study that did not make sense to you (i.e., things the experimenters said or did, or questions we asked that seemed 'out of place'?)

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## Debriefing Information sheet

**Thank you for participating in this study!** We greatly appreciate your participation, but we ask that you refrain from discussing this study with potential participants (i.e., other PSYC 1001/1002 students) because their responses may be influenced. This post-survey information is provided to inform you of the exact nature of the research you just participated in.

*What are we trying to learn in this research?*

The purpose of this study was to assess the effectiveness of a manipulation that is meant to heighten people sense of connection to particular groups to which they may belong. Previous research (e.g., Sahdra & Ross, 2007) has found that under certain situations, people will have a need to affiliate with people who are like them. Specifically, this research has found that when people are made to think about how different they are from other people like them they, ironically, have a heightened need to feel connected to those same people. With that in mind, we will now take you step-by-step through the study you just completed.

First, we will explain how you were selected to be a participant in this study. If you recall, you completed a questionnaire in your introductory psychology class at the beginning on June. In the questionnaire, you were asked to indicate your height and weight. We needed this information to calculate what is called a Body Mass Index (BMI; this can be calculated with the following equation:  $\text{kilogram}/\text{metre}^2$ ). In this study, we were interested in recruiting two types of people. The first group consisted of people who, according to their BMI, are considered overweight. These people have a BMI between 25 and 30. To be sure, participants in this group also had to self-identify as being overweight according to a body-shape drawing scale completed in your psychology class. The second group consisted of people who, according to their BMI, are considered of average weight. These people have a BMI between 18.50 and 25. Participants in this group also had to self-report being of average weight according to the body-shape scale. We also asked you to indicate your gender during the in-class session. This is because we wanted to restrict participation in the present study to woman. This was to simplify the study as men and women tend to have different ways of thinking about their weight.

We then contacted people to participant in this in-lab study. When you arrived, you were randomly assigned to one of three conditions. We had you either think about how you were different from a) overweight people, b) people of average weight, or c) other women. It was hypothesized that people who are overweight according to their BMI would feel a stronger sense of connection with other overweight people when asked to think about how different they are from other overweight people. A similar phenomenon should happened when average weighted people are asked to think about how they are

different from other average weighted people and when women are asked to think about how they are different from other women.

Your responses during this session will help us determine whether or not we can increase a sense of connection to these groups via the differentiation task we asked you to complete.

We appreciate the time you have given us to complete this study. Should you have any questions about this study or should you feel any discomfort following the completion of this study, you are encouraged to contact the following persons or services.

### **Contacts**

If you have any **further questions about this study, what it means, or concerns about how it was conducted**, you are encouraged to contact the following people at any time:

Leo Kiu, Researcher, Department of Psychology

Phone: (613) 520-2600 ext. 6312

e-mail: [kkiu@connect.carleton.ca](mailto:kkiu@connect.carleton.ca)

Dr. Michael Wohl, Faculty Member, Department of Psychology

Phone: (613) 520-2600 ext. 2908

e-mail: [Michael\\_wohl@carleton.ca](mailto:Michael_wohl@carleton.ca)

If you have any ethical concerns about how this study was conducted, please contact either of the following:

Dr. A. Parush, Chair of the Carleton University Research Ethics Committee for Psychological Research, (613) 520-2600, ext. 6026

Dr. J. Mantler, Chair, Dept. of Psychology, Carleton University, (613) 520-4173

If you have any **worries or concerns about your personal well-being, or student skills**, you can contact the following services:

Carleton University Health and Counselling Services: (613) 520-6674

Student Life Services: (613) 520-6600

If you need to enquire about how to **report a situation of discrimination** (because of your ethnic background, religion, sex, age, sexual orientation, etc.), you can contact the following service:

Ontario Human Rights Commission: 1-800-387-9080 (toll free number).

## Informed Consent to the Use of Data

*The purpose of this informed consent is to ensure that you now understand the true purpose of the study and that you agree to allow your data to be used for research and teaching purposes. Because you were only told of the procedures and not the purpose of this study at the outset, we are now asking for your consent to allow your data to be used for research and teaching purposes.*

**Purpose.** The purpose of this study is to investigate whether, ironically, your sense of connection to a group of people can be heightened when asked to think about how you are different from those people.

**Anonymity/Confidentiality.** The data collected in this study will be kept anonymous and confidential. Your consent forms will be kept separate from your responses.

**Right to withdraw data.** You have the right to indicate that you do not wish your data to be used in this study. If you indicate this is your choice, then all measures you have provided will be destroyed.

**Signatures:** I have read the above description of the study concerning reactions to a fictitious newspaper article regarding racial discrimination. The data in the study will be used in research publications or for teaching purposes. My signature indicates that I agree to allow the data I have provided to be used for these purposes.

Full Name (Print): \_\_\_\_\_

Participant Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher Signature: \_\_\_\_\_

Date: \_\_\_\_\_