

Perceived controllability and stigma regarding overweight people:
Ameliorating emotions toward an overweight target with a
psycho-educational intervention

BY

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**Perceived controllability and stigma regarding overweight people: Ameliorating emotions
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Teressa Grosko

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of
Manitoba in partial fulfillment of the requirement of the degree**

of

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Abstract

The purpose of this study was to determine whether or not participants' causal attributions about weight influenced their evaluations of overweight individuals, who are stigmatized and discriminated against. Perceptions of controllability have been found to be related to degree of stigma and discrimination. Participants of this study were 164 undergraduate students, who were presented with a lecture: half of this group listened to a lecture that confirmed the common perspective that weight is controllable, and the other half of this group listened to a lecture that offered an alternative perspective. The alternative perspective lecture served as a psycho-educational intervention and emphasized the degree to which weight is influenced by heredity and the challenges of long-term weight loss. Participants were then presented with a picture of an overweight female undergraduate student. Half of the participants were informed that the target is overweight because of controllable reasons (e.g., regular overeating and sedentary lifestyle), and the other half of the participants were informed that she is overweight because of uncontrollable reasons (e.g., glandular disorder). All participants then rated the target on several scales.

The four resulting groups of ratings were compared to determine whether perceptions of controllability influenced individuals' evaluations of the overweight target. Results demonstrated that the participants who were informed that the target was overweight because of a glandular disorder rated her more favorably in terms of personality impressions (e.g., self-control and activity) and emotions (e.g., anger and pity) than participants who were informed that she was overweight because of regular overeating and a sedentary lifestyle. The psycho-educational intervention also has an

effect on participants' ratings of the target. Specifically, the participants who heard the alternative lecture (i.e., weight is less controllable than commonly believed) reported more positive emotions toward the target than participants who heard the traditional lecture (i.e., it is important to be thin to be healthy). The implications of ameliorating emotions toward overweight people by changing perceptions of controllability to alleviate stigma were discussed. This study supports psycho-educational interventions regarding the controllability of weight to decrease the degree of stigma and discrimination experienced by overweight people.

Perceived controllability and stigma regarding overweight people

Goffman (1963) defines stigma as a physical deviance. As such, a stigma is an attribute that tends to be negatively regarded by others and results in a global, negative evaluation of the possessor of the attribute. Regardless of the nature of the stigma, the consequences the stigmatized individual experiences are severe; they include discrimination, rejection, avoidance, and anxiety-provoking social situations. Many researchers have demonstrated that overweight individuals are stigmatized and, furthermore, that obesity is one of the most negatively stigmatized physical conditions.

Overweight individuals are stigmatized and discriminated against

Despite the ever-growing prevalence of overweight people, overweight individuals are not seen as socially acceptable by North Americans. Research indicates that 35% of Canadian men and 27% of Canadian women can be considered obese, that is, they have a BMI greater than 27. Moreover, over 50% of Canadian men and women are considered to be overweight and at risk for weight related health problems (Sibbald, 1998). Being overweight is associated with being unhealthy as well as not being aesthetically attractive. Indeed, individuals who have been overweight and have lost weight with the help of bariatric surgery were found to choose to be blind or deaf, rather than be overweight again (see Rand & McGregor in Lyons & Miller, 1998, p. 1142). Overweight people harshly judge themselves for their conditions and are similarly judged by others. Both adults (Lerner, 1969; Lerner & Korn, 1972; Felker, 1972) and children (Richardson, Hastroff, Goodman, & Dornbusch, 1961; Staffieri, 1967) evaluate overweight individuals more negatively than they evaluate normal-weight individuals.

Furthermore, there is evidence that normal-weight and overweight individuals are equally likely to evaluate overweight people negatively (Maddox, Back, & Liederman, 1968; Crandall & Biernat, 1990) and to blame them for their conditions (DeJong, 1980, p.83; Hebl & Hetherton, 1998; Weiner, Perry, & Magnusson, 1988). Evaluations are especially negative when evaluators are satisfied with their own bodies, when perceptions of their bodies are central to their self-concepts (Pingitore, Dugoni, Tindale, & Spring, 1994), and when their ideologies rest on the assumption that people get what they deserve (Crandall, 1994a; 1994b). In terms of self-indulgence, self-discipline, laziness, goodness, and warmth, overweight individuals are evaluated more negatively and are less liked than normal-weight individuals (DeJong 1980; 1993), and this is especially true for young women (Hebl & Hetherton, 1998; Hiller, 1981).

Overweight individuals are discriminated* against in a variety of ways. They are less likely to be enrolled in college (see Crandall, 1995) and to be hired as employees (Pingitore et. al., 1994). Overweight women are less desired as romantic partners than are recovering drug addicts (Sitton & Blanchard, 1995). Obese students are less likely to be wanted as tenants by building managers than are normal-weight students (Karris, 1977). In general, attitudes toward overweight individuals are more negative than toward normal-weight individuals. These negative attitudes are reflected in discriminating behavior toward overweight individuals, who are perceived as being responsible for their body mass.

* In this paper, the word "discrimination" is used to refer to the act of discriminating categorically (rather than individually) in a prejudiced and hurtful way. Otherwise, the meaning of "discrimination" is simply discernment.

Perceived controllability, stigma, and discrimination

Challenging the belief that individuals can willfully change their weight might help alleviate the stigmatization and discrimination experienced by overweight individuals. Indeed, based on Weiner's (1995) theory of judgments of responsibility, "if perceptions of cause of obesity could be changed from controllable to uncontrollable, then anti-fat attitudes would decrease" (p.77). For example, when a glandular disorder is given as an explanation for being overweight, overweight individuals are less harshly judged than if the obesity is explained by poor lifestyle habits or when it is not explained at all (DeJong, 1980; 1993; Weiner, Perry, & Magnusson, 1988). If no explanation is given for the overweight status of the target individual, obesity continues to be seen as controllable, despite evidence supporting the great extent to which weight is genetic, as well as the failure of long-term weight loss treatments (Weiner et. al., 1988).

The association between controllability and stigmatization is most relevant. "Causal beliefs give rise to inferences of responsibility, which, in turn, generate feelings of anger and sympathy" and these "thoughts and feelings direct social behavior towards others" (Weiner, 1995, p. 3). Weiner proposes that social behavior in general is guided by the following process:

OUTCOME → CAUSAL DETERMINATION → EMOTION, EXPECTATION, AND RESPONSIBILITY → BEHAVIOR.

The perceived cause of an outcome is first determined. Causality is either ascribed to a person or situation. When causality is attributed to a person, that person is potentially held accountable for the outcome, unless mitigating circumstances intervene. Conversely, when causality is allocated to a situation, the person associated with the outcome (if there

is indeed a person associated with the outcome) is not held accountable for the outcome. Moreover, causality is determined to be controllable or uncontrollable. When the cause of the outcome is deemed to be amenable to “volitional change” or “willful regulation” (i.e., controllable by the person), the person is held responsible for the outcome. Conversely, when causality is deemed uncontrollable, a judgment of responsibility is not rendered. Mitigating circumstances also play a role in this process in alleviating judgments of responsibility as they justify the outcome even when it is personal and controllable.

When the cause of an outcome is determined to be personal and controllable by the person, that person is held responsible for the particular outcome. Responsibility for an outcome, in turn, influences feelings and behaviors that individuals have regarding the particular outcome and the person involved. The overweight individual, whose overweight condition may be viewed as a negative outcome, is held personally responsible for his/her weight, and the condition is attributed to controllable factors (e.g., overeating and leading a sedentary lifestyle). This judgment occurs when no information is provided about the individual's weight and may be generalized to an overweight person as a first impression. A judgment of responsibility is rendered and consequently influences the behaviors toward the overweight person. These behaviors are negative (e.g., the overweight person is less likely to be considered as a good potential employee, tenant, or romantic partner), and the overweight individual is said to be stigmatized and discriminated against.

To alleviate the stigmatization experienced by overweight individuals, the cause of the excess weight could be explained by uncontrollable factors. Indeed, researchers that have manipulated the explanations for being overweight have demonstrated that

overweight individuals are judged less harshly when excess weight is explained by uncontrollable factors rather than controllable factors or when no explanation is provided (DeJong, 1980; 1993; Weiner et. al., 1988).

DeJong (1980; 1993) found that overweight individuals receive more positive evaluations when their condition can be explained (e.g., glandular disorder) or when they are in the process of attempting to lose weight (e.g., dieting). A common perception about overweight people is that they could easily change their condition (DeJong, 1980), and therefore they are held responsible for being overweight (DeJong, 1993; Weiner et. Al., 1988). DeJong (1993) proposes that the perception of responsibility is related to the degree of negative evaluation received by obese individuals. The degree to which overweight individuals are responsible for their conditions is questionable. Contrary to popular belief, a person's weight is not simply determined by controllable factors, and long-term weight loss is difficult to maintain.

Limitations to beliefs about controllability and weight

The current and popular perspective among lay people and most professionals is that a person is able to control his/her weight and that being thinner means being healthier. This perspective is widespread and propagated by the media. Adherence to this perspective is undesirable for both overweight and normal-weight individuals.

Overweight individuals who believe this myth tend to blame themselves for being overweight and are more likely to have unhealthy cognitions and engage in unhealthy behaviors (LeBow, 1999). Moreover, normal-weight individuals who adhere to the "thinness is equal to health and beauty" bias are more likely to evaluate overweight individuals negatively and discriminate against them. Adherence to this perspective is

undesirable because research has demonstrated that weight is highly influenced by genetic factors and long-term weight loss interventions are not typically successful.

The genetic determinants of weight weaken the commonly held belief that people can change their weights at will. Heritability studies suggest that as much as 70% of variability in human body weight may be accounted for by genetic factors (Yanovski & Yanovski, 1999). When genetic tendencies are combined with a sedentary lifestyle and an environment where food is abundant, it can be difficult to combat the resulting obesity. According to twin and adoption studies (Bouchard et al., 1990; Poehlman et al., 1986; Price, Cadoret, Stunkard, & Troughton, 1987; Stunkard et al., 1986; 1990), genetic factors are of significant importance in determining an individual's weight.

Moreover, Sims' (1989) study demonstrates that the ability to gain or lose weight is influenced by an inherited tendency for weight. In his study, Vermont prisoners were paid to gain weight. Individuals with a family history of obesity easily gained weight by increasing calorie intake. Losing weight by decreasing calorie intake was difficult for them after the termination of the study. Conversely, individuals with no family history of obesity were unable to gain a lot of weight and quickly lost the weight gained when the study ended. Sims' study, twin studies, and adoption studies indicate that "body weight and size are not solely determined by individual behaviors and therefore are not easily changeable" (Cogan & Ernsberger, 1999, p. 192).

Jeffery, Drewnowski, Epstein, Stunkard, Wilson, Wing, and Hill (2000) review the development of behavioral treatment of obesity during the past 20 years. Learning and executing new behaviors that increase energy expenditure and decrease energy intake is the premise of behavioral treatment for obesity, and adherence to these new behaviors

results in weight loss. The most significant component of treatment is the duration of treatment; that is, increased treatment length is related to increased amount of weight loss achieved by individuals who undergo behavioral treatment. Kiernan, King, Kraemer, Stefanick, and Killen (1998) identify several variables that are related to increasing the chances of weight loss success. Specifically, the individuals most likely to succeed in weight loss attempts are those who engage in a combined diet and exercise program (versus diet only), who are initially more satisfied with their bodies, and who do not have histories of repeated weight loss and regain. The trend of weight loss treatment is for study participants to lose weight rapidly in the first six months of treatment; then they gradually regain.

Regaining weight is partially associated with the diminished adherence to the newly learned behaviors (Jeffery et al., 2000; McGuire, Wing, Klem, Lang, and Hill, 1999). Jeffery et al. (2000) demonstrate that maintaining large weight losses is possible, but rare. Most adult participants in weight loss studies fail to achieve long-term weight loss (Yanovski & Yanovski, 1999).

Jeffery et al. (2000) discuss research on improving long-term weight loss. Although increasing the intensity of initial weight loss treatment results in greater initial weight loss, a greater regain typically occurs. Enhancing motivation with monetary rewards or contracts does not help individuals to maintain their weight losses. Financial incentives when combined with the use of personal trainers, however, do help individuals adhere to a prescribed exercise program (Jeffery, Wing, Thorson, and Burton, 1998). Enhancing motivation by increasing social support has somewhat improved weight loss maintenance (Jeffery et al., 2000; Wing & Jeffery, 1999). Long-term weight loss is also

improved by increasing treatment length. Jeffery et al. (2000) suggest that perhaps obesity treatment should be applied indefinitely for long-term success. They also acknowledge, however, that treatment participants are not likely to be willing to adhere to their treatments indefinitely, thus posing difficulties for life-long obesity treatment.

One important component of successful long-term weight loss is regular physical activity (Jeffery et al., 2000; Yanovski & Yanovski, 1999). In a study comparing strength training, aerobic exercise, the combination of the two, and no exercise, Yanovski & Yanovski (1999) found no significant differences between the four groups in weight at the end of treatment. The participants of this study, however, who reported being active before the treatment regained significantly less weight than non-exercisers. Jeffery et al. (2000) also discuss teaching maintenance-specific behavioral skills as a potential method for improving long-term weight loss. These researchers deduce that the factors for regain are not yet entirely identified and the area warrants future research, and they suggest further research in this area. They maintain that, with more research, obese individuals will successfully be able to lose weight without regaining it.

After overweight individuals lose weight, they report improved energy levels, better general health, and enhanced ability to perform daily activities (Fine, Colditz, Coakley, Moseley, Manson, Willett, & Kawachi, 1999; Fontaine, Barofsky, Andersen, Bartlett, Wiersema, Cheskin, and Franckowiak, 1999). They also feel more satisfied with their bodies than they did when they were heavier (Adami, Meneghelli, Bressani, & Scopinaro, 1999). Indeed, one of the psychological consequences of obesity is body dissatisfaction which tends to lead to significant distress, impairment, and attempts to lose weight (Valtolina, 1998). However, the levels of satisfaction expressed by

participants who reported improved health and self-esteem were measured after they completed the dieting treatment phase (i.e., after they lost weight). The immediate and negative psychological consequences of dieting include: adverse effects on cognitive performance and body image, negative mood and depression, and preoccupation with food and eating. These ratings were obtained during the time the study participants were dieting. Positive mood ratings are likely when participants have achieved their weight loss goals, while negative mood ratings are associated with the participants' moods when they are monitoring and restricting their food intake (McFarlane, Polivy, & McCabe, 1999) and probably after they have regained weight.

Furthermore, although losing weight is associated with feeling more attractive, it is not associated with feeling healthier. Adami et al.'s (1999) study shows that obese participants who have attained a normalized weight through bariatric surgery reported that they did not feel stronger, more fit, or more physically efficient. This may indicate that being lean is not a necessary component for feeling strong, fit, and physically efficient. This finding suggests that being thin is not as related to health as previously thought.

Some researchers declare that, in addition to being ineffective, many weight loss techniques are associated with negative consequences. The lack of long-term success of weight loss techniques typically results in weight fluctuations that are related to increased mortality (Ernsberger & Koletsky, 1999). In laboratory animals weight fluctuations have the following effects: increased blood pressure, enlarged heart, damaged kidneys, increased abdominal fat deposits, and more further weight gain. Paradoxically, dieting is related to weight gain (Jeffery et al., 2000; Stice, Cameron, Killen, Hayward, & Taylor,

1999). Chronic dieting is also related to increased risk factors for eating disorders (McFarlane, Polivy, & McCabe, 1999). Moreover, dangerous weight loss techniques (e.g., very low calorie diets, diet pills, surgery, purging, and fasting) are associated with serious health problems (Berg, 1999; Miller, 1999a; 1999b).

Perceptions of responsibility about weight are detrimental and pervasive

Many theorists claim that weight loss results in improved health (Fine et al., 1999; Jeffery et al., 2000; Kiernan et al., 1998). Conversely, an increasing number of theorists point to the paucity of empirical research that supports the claim that weight loss results in improved health. Instead they focus on enhancing health and well-being, while disregarding body weight, which is not as controllable as originally thought (Lyons & Miller, 1998). A growing number of scientists are acknowledging the merits of engaging in a healthy lifestyle (i.e., healthy food choices and physical activity) for improving health (Miller, 1999a).

The reason why weight loss is recommended for overweight individuals is because thinness is thought to be indicative of health. Epidemiological studies do show that lean individuals are typically healthier than their heavier counterparts. Unintentional and intentional weight loss, however, is associated with increased mortality rates, as well as increased loss of bone mass, a risk factor for osteoporosis (Berg, 1999). Furthermore, controlled trials that show that weight loss decreases disease or extends life expectancy are not currently available (Ernsberger & Koletsky, 1999). Miller (1999b) asserts that weight loss techniques are not effective and that weight loss is not associated with improved health. Exercise, on the other hand, has been shown to be associated with many

health benefits, regardless of whether or not any weight is concurrently lost (Miller, 1999a).

The elimination of obesity through weight loss is a goal that needs to be undertaken safely. Many weight loss attempts are ineffective and can be dangerous. Yet, the thinness bias is all pervasive. The notion that thinness equals health is perpetuated by media, teachers (Rothblum, 1999), coaches (Thompson & Sherman, 1999), research journals (Ernsberger & Koletsky, 1999; Rothblum, 1999), and public policy recommendations (Berzins, 1999; Cogan, 1999). The cultural promotion of thinness has serious physical and psychological consequences. The myth that thinness equals health needs to be exposed, because it is harming people.

An alternative perspective: a change in perceived controllability

The main concern of this paper is whether or not the stigma experienced by overweight individuals will be alleviated if raters perceive weight as less controllable. If obese individuals are healthy and accepting of their bodies, will the discrimination they experience on a daily basis persist? If there is a change in perspective that improves the lives of overweight people, will they be treated better by the individuals with whom they interact?

Crandall (1994a) conducted a study in which he persuaded participants (by asking them to read and listen to an experimenter read a two-page information sheet about the genetic determinants of weight) that weight is not controllable. These participants were more positive in their evaluations of an overweight target than participants in the control condition who were not informed about any weight-related concerns. Specifically, participants who were persuaded that genetics strongly influence weight did not judge the

overweight target as harshly in terms of willpower and expressed more liking toward the overweight target than participants in the control condition. This experiment “does show that assumptions about discipline and self-control can play a causal role in antipathy toward fat people. Changing this belief reduces antifat attitudes” (Crandall, 1994a, p. 888).

The purpose of this study was to change participants’ causal attributions about weight to determine whether or not this change will influence their evaluations of an overweight target. A further question was whether or not the controllability of the onset of being overweight (i.e., controllable or uncontrollable) will influence the participants’ evaluations of the target.

Hypotheses

1. Participants will evaluate the target more positively when she is presented as being overweight because of an uncontrollable reason (i.e., glandular disorder) than when she is presented as being overweight because of a controllable reason (i.e., regular overeating and a sedentary lifestyle), regardless of perspective.
2. Participants who are exposed to the alternative perspective (i.e., weight is less controllable than commonly believed) will rate the target more favorably than participants who are exposed to the traditional perspective (i.e., weight is controllable), regardless of reason for onset.
3. An interaction effect between perspective and reason for onset is not likely to occur. The participants who have heard the traditional approach lecture and believe the target is overweight because of controllable reasons will respond most negatively to the target. Conversely, the participants who have heard the alternative approach

lecture and believe the target is overweight because of uncontrollable reasons will respond most favorably to the target. The other two groups of participants (traditional lecture and uncontrollable onset; and alternative lecture and controllable onset) are likely to have similar ratings of the target.

Procedure

Participants were tested as part of a large group of students in a classroom setting. They signed up for a testing session that fit their schedule; this determined which lecture they heard. They were randomly assigned to one of two groups using a random number table; this determined which onset information they received. All participants first completed a questionnaire to determine their attitudes toward overweight individuals (Appendix A). Groups of participants were presented with either the traditional (Appendix B) or the alternative perspective (Appendix C) of perceived controllability regarding weight. The perspectives were presented as a 15 minute lecture, by an experienced and engaging lecturer who used power point slides, on the etiology of weight-related concerns. The material that was covered in the lectures is delineated in Appendixes B and C. The traditional perspective lecture presented the view that people can and should control their weight. In contrast, the alternative perspective lecture presented the view that weight is difficult to control and that people should focus on health rather than weight. To ensure that participants understood the material and that their attitudes regarding the controllability of weight were consistent with their respective groups, they were asked to complete a short test (Appendix D).

All participants were shown a picture of the target female, who is overweight (Appendix E). The selected target overweight person was a woman, because women are more stigmatized for their weight than men (Hebl & Hetherington, 1998; Hiller, 1981). The results of Hiller's (1981) study show that using a picture (not a silhouette (Hebl & Hetherington, 1998, p.419)) and a vignette produce stronger significance in the outcome than using either a picture or a vignette. The selected target was a White young woman

because this is the group that is most stigmatized for being overweight (Hebl & Hetherington, 1998; Hiller, 1981).

Participants were asked to read a vignette describing the reasons why the target overweight woman became overweight (Appendix F). The vignettes differed in controllability of onset of the target's overweight status. The onset of being overweight is deemed controllable if it is presented as a result of regular overeating and lack of physical activity. Conversely, it is considered uncontrollable if it is attributed to a glandular disorder (DeJong, 1980; 1993; Weiner et al., 1988).

Subsequently, all participants were asked to rate the target on how they perceived her personality traits, like-ability, and other qualities (DeJong, 1980; 1993). Participants were also asked to describe their feelings toward the target (e.g., pity, anger, and liking; Weiner et al., 1988) and to make suggestions for improving her health and well-being (e.g., diet, exercise, and therapy). Participants were also asked to report their own heights, weights, and activity levels (Appendix G). The entire testing session lasted 45 minutes.

Finally, all participants received a debriefing form (Appendix H) as they handed in their materials. The debriefing form clarified the description, purpose, and hypotheses of the study and included a note of appreciation for their participation and contact information for those who wish to be informed about the results of the study. (See Appendix I for a flow chart describing the stages of these methods.)

Results

Description of participants

A total of 164 University of Manitoba undergraduate students participated in this study in exchange for two (out of 14 possible) credits for their Introduction to Psychology course. The participant group consisted of 101 women and 63 men. The average age of all participants was 21.57 years. See Table I for a detailed description of the four participant groups.

Table I

Description of participant groups

	PERSPECTIVE		
	Traditional	Alternative	Total
ONSET			
Controllable	<u>Females</u>	<u>Females</u>	<u>Females</u>
	$N = 18$	$N = 32$	$N = 50$
	$Mage^1 = 22.38$	$Mage = 20.18$	$Mage = 20.97$
	$Mht^2 = 65.30$	$Mht = 65.13$	$Mht = 65.19$
	$Mwt^3 = 144.06$	$Mwt = 136.84$	$Mwt = 139.44$
	<u>Males</u>	<u>Males</u>	<u>Males</u>
	$N = 18$	$N = 14$	$N = 32$
	$Mage = 24.54$	$Mage = 20.00$	$Mage = 22.55$
	$Mht = 70.84$	$Mht = 71.29$	$Mht = 71.04$
	$Mwt = 181.91$	$Mwt = 175.07$	$Mwt = 178.92$
	$Nf\&m^4 = 36$	$Nf\&m = 46$	$Nf\&m = 82$
Uncontrollable	<u>Females</u>	<u>Females</u>	<u>Females</u>
	$N = 21$	$N = 30$	$N = 51$
	$Mage = 22.05$	$Mage = 21.76$	$Mage = 21.88$
	$Mht = 64.60$	$Mht = 65.87$	$Mht = 65.34$
	$Mwt = 128.71$	$Mwt = 134.03$	$Mwt = 131.84$
	<u>Males</u>	<u>Males</u>	<u>Males</u>
	$N = 14$	$N = 17$	$N = 31$
	$Mage = 21.8171$	$Mage = 20.36$	$Mage = 21.02$
	$Mht = 70.71$	$Mht = 71.53$	$Mht = 71.16$
	$Mwt = 165.43$	$Mwt = 168.24$	$Mwt = 166.97$
	$Nf\&m = 35$	$Nf\&m = 47$	$Nf\&m = 82$

Total	<u>Females</u>	<u>Females</u>	<u>Females</u>
	<i>N</i> = 39	<i>N</i> = 62	<i>N</i> = 101
	<i>Mage</i> = 22.20	<i>Mage</i> = 20.95	<i>Mage</i> = 21.43
	<i>Mht</i> = 64.92	<i>Mht</i> = 65.48	<i>Mht</i> = 65.27
	<i>Mwt</i> = 135.79	<i>Mwt</i> = 135.48	<i>Mwt</i> = 135.60
	<u>Males</u>	<u>Males</u>	<u>Males</u>
	<i>N</i> = 32	<i>N</i> = 31	<i>N</i> = 63
	<i>Mage</i> = 23.35	<i>Mage</i> = 20.20	<i>Mage</i> = 21.80
	<i>Mht</i> = 70.79	<i>Mht</i> = 71.42	<i>Mht</i> = 71.10
	<i>Mwt</i> = 174.70	<i>Mwt</i> = 171.32	<i>Mwt</i> = 173.04
	<i>Nf&m</i> = 71	<i>Nf&m</i> = 93	<i>Nf&m</i> = 164

¹Age means are presented in number of years.

²Height means are presented in inches.

³Weight means are presented in pounds.

⁴*Nf&m*: The number of participants in the group, including females and males.

Preliminary analyses

Several preliminary analyses were performed as validity checks to ensure that the differences between groups were a result of the intervention and manipulation. Specifically, the preliminary analyses addressed whether or not the groups differed before any intervention was delivered or manipulation was executed. Two specific items, which were intended to verify whether or not participants heard the psycho-educational lecture, were examined. Also, the differences of attitudes about controllability of weight between the two perspective groups (traditional or alternative lecture) were investigated.

Differences prior to intervention and manipulation. To demonstrate that there were no differences among the four groups in attitudes about controllability of weight, a 2-way ANOVA was performed on the Pre-test items. No interaction ($F = 0.018$; $p > 0.05$) or main effects ($F_{\text{perspective}} = 2.362$; $p > 0.05$; $F_{\text{onset}} = 0.303$; $p > 0.05$) were identified, indicating that there were no significant differences among groups on attitudes about weight before the intervention was implemented. This means that there were no differences among the four groups regarding the extent to which they believed it is important to be thin to be healthy, long-term weight loss is an appropriate goal for overweight people, people can easily change their weight at will, and people should be held responsible for how much they weigh.

Intervention checks. The means of the two items (1 & 2) intended to determine whether or not the lecture was heard were calculated for the traditional ($M1 = 5.08$; $M2 = 6.79$) and alternative ($M1 = 5.13$; $M2 = 6.29$) groups. T-tests were performed to examine differences in mean responses between the two groups. No significant differences ($t = -0.130$; $p > 0.05$) were found for the first item. (Over 50% of Canadian men and women

are considered to be overweight.) A significant difference ($t = 3.191$; $p < 0.05$) was identified between the responses of the two groups on the second item (The current measure for determining weight status is the Body Mass Index (BMI)). The traditional group participants ($M = 6.79$) reported more agreement with this statement than alternative group participants ($M = 6.29$). However, agreement with this item was high in both groups, demonstrating a high level of attention to the lecture. See Table II for means, standard deviations, and N values of these intervention check items. As an additional check, two individuals observed participants during the intervention and reported that it seemed that participants were intently listening to the lecture.

Table II

Statistics for intervention check items

		<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>sig</i>
<hr/>							
Item 1 ¹							
	Traditional	71	5.08	2.43	-0.130	162	0.897
	Alternative	93	5.13	1.97			
Item 2 ²							
	Traditional	71	6.79	0.56	3.191	162	0.002
	Alternative	93	6.29	1.20			
<hr/>							

¹Over 50% of Canadian men and women are considered to be overweight.

²The current measure for determining weight status is the Body Mass Index (BMI).

Differences between groups after intervention. A factor analysis was first performed on the Post-test items; one factor was identified (Table III). A 2-way ANOVA was then performed on the sum of the items to examine differences between groups on attitudes about controllability of weight after the psycho-educational intervention was delivered. No interaction ($F = 0.367$; $p > 0.05$) or main effects for onset ($F_{\text{onset}} = 0.002$; $p > 0.05$) were found, meaning that there were no differences among groups, except for those created by the intervention. That is, a significant main effect for perspective ($F_{\text{perspective}} = 165.321$; $p < 0.05$) was identified. Specifically, participants who heard the alternative lecture ($M = 44.1613$, $SD = 6.8772$) reported attitudes that are more consistent with this lecture (e.g, they disagreed more with statements that claimed people can easily change their weight at will and people should be held responsible for how much they weigh) than participants who heard the traditional lecture ($M = 31.7429$, $SD = 5.3938$).

Table III

Factor loadings for post-test items

Item	Principle Component Analysis Values	
	Pattern Matrix	Structure Matrix
Being overweight is associated with many health-related risk factors.	-.726	-.754
People who are overweight should lose weight to improve their health.	.828	.850
People can easily change their weight at will.	.568	.558
It is important to be thin or average weight to be healthy.	.806	.813
Genetics play a big role in determining a person's weight.	.692	.691
People should be held responsible for how much they weigh.	.708	.701
Thin people are healthy.	.651	.638
Overweight people are not healthy.	.804	.804

Main analyses

Factor analyses were performed on groups of items that were expected to load together. Four factors were expected, and six factors were identified (Tables IV - IX): self-control; jolliness; similarity; clean, good, and feminine; active; and the emotions.

Table IV

Factor loadings for "self-control"

Item	Principle Component Analysis Values	
	Pattern Matrix	Structure Matrix
Self-indulgence	.807	.801
Self-discipline	.787	.791
Laziness	.622	.623

Table V

Factor loadings for "jolliness"

Principle Component Analysis Values		
Item	Pattern Matrix	Structure Matrix
Warmth	.815	.609
Friendliness	.802	.803
Happiness	.845	.839
Self-confidence	.778	.791

Table VI

Factor loadings for "similarity"

Item	Principal Component Analysis Value	
	Pattern Matrix	Structure Matrix
Do you think you would like Jen?		
If you met Jen at a party or in class, do you think you would become close friends?		
Do you think you would like to introduce Jen to your friends?		
How similar is Jen to yourself in wants, needs, and goals?		
Rate Jen's physical attractiveness.		
Would you set up Jen with one of your friends?		

*Only one component was extracted, and therefore the solution cannot be rotated. That is, analysis values are not relevant in this factor analysis, because items expected to load on one factor did.

Table VII

Factor loadings for "clean, good, and feminine"

Principle Component Analysis Values		
Item	Pattern Matrix	Structure Matrix
Clean/dirty	.873	.893
Good/bad	.782	.827
Masculine/feminine	.783	.737

Table VIII

Factor loadings for "active"

Item	Principle Component Analysis Values	
	Pattern Matrix	Structure Matrix
Strong-willed/weak-willed	.786	.805
Active/passive	.877	.831
Fast-moving/slow-moving	.794	.799
Sharp-thinking/dull-thinking	.506	.614

Table IX

Factor loadings for "emotions"

Principle Component Analysis Values		
Item	Pattern Matrix	Structure Matrix
Jen has no control over her weight.	.180	.187
Jen should be blamed for her being overweight.	.464	.470
I like Jen.	.723	.724
I am angry at Jen.	.775	.775
I am disgusted by Jen.	.822	.822
I pity Jen.	.563	.558
The health-care system should help Jen.	-.253	-.227

Two-way ANOVAs were performed on the sums of the items that loaded together on each factor (Appendix J). Two-way ANOVAs revealed no significant interaction or main effects for perspective on the self-control factor, meaning that the psycho-educational intervention did not result in any group differences on the participants' ratings of the target's self-control. However, significant main effects for onset were identified. Participants who were informed that the target is overweight because of a glandular disorder (uncontrollable onset and maintenance) rated her as having more self-control than participants who were informed that she is overweight because of regular overeating and a sedentary lifestyle (controllable onset and maintenance). This effect was also observed for "similarity" and "active" factors. That is, participants who were informed that the target is overweight because of glandular disorder rated her as more likable and similar to themselves and more active. See Tables X - XV for the means and Table XVI for the statistics of these ANOVA results.

A 2-way ANOVA on the emotions factor also revealed no significant interaction effects ($F = 0.002$; $p > 0.05$) and significant main effects for onset ($F = 6.709$; $p < 0.05$), where participants who were informed that the target is overweight because of uncontrollable reasons ($M = 28.5309$, $SD = 4.5746$) reported more positive emotions (e.g., more liking, less anger, disgust, and pity) toward her than participants who were informed that she is overweight for controllable reasons ($M = 26.5732$, $SD = 5.0333$). In the case of emotions, however, the psycho-educational intervention did result in main effects ($F = 12.124$; $p < 0.05$). Specifically, participants who heard the alternative lecture ($M = 28.6667$, $SD = 3.9572$) judged the target less harshly than participants who heard the traditional lecture ($M = 26.0571$, $SD = 5.6077$).

Table X

Means & standard deviations for "self-control"

		PERSPECTIVE		
		Traditional	Alternative	Total
ONSET				
	Controllable	$M = 9.61$	$M = 10.22$	$M = 9.95$
		$SD = 3.03$	$SD = 2.28$	$SD = 2.63$
	Uncontrollable	$M = 13.94$	$M = 13.85$	$M = 13.89$
		$SD = 3.19$	$SD = 2.69$	$SD = 2.89$
	Total	$M = 11.71$	$M = 12.05$	$M = 11.91$
		$SD = 3.78$	$SD = 3.08$	$SD = 3.39$

Table XI

Means & standard deviations for "jolliness"

		PERSPECTIVE		
		Traditional	Alternative	Total
ONSET				
	Controllable	$M = 20.14$	$M = 20.52$	$M = 20.36$
		$SD = 4.12$	$SD = 4.44$	$SD = 4.28$
	Uncontrollable	$M = 21.57$	$M = 20.87$	$M = 21.17$
		$SD = 3.69$	$SD = 4.57$	$SD = 4.21$
	Total	$M = 20.86$	$M = 20.70$	$M = 20.77$
		$SD = 3.95$	$SD = 4.48$	$SD = 4.25$

Table XII

Means & standard deviations for "similarity"

		PERSPECTIVE		
		Traditional	Alternative	Total
ONSET				
	Controllable	$M = 25.09$	$M = 26.22$	$M = 25.73$
		$SD = 7.45$	$SD = 7.70$	$SD = 7.57$
	Uncontrollable	$M = 28.06$	$M = 28.40$	$M = 28.26$
		$SD = 7.20$	$SD = 6.88$	$SD = 6.92$
	Total	$M = 26.53$	$M = 27.32$	$M = 26.99$
		$SD = 7.43$	$SD = 7.30$	$SD = 7.34$

Table XIII

Means & standard deviations for "clean, good, and feminine"

		PERSPECTIVE		
		Traditional	Alternative	Total
ONSET				
	Controllable	$M = 17.11$	$M = 17.26$	$M = 17.20$
		$SD = 3.54$	$SD = 3.59$	$SD = 3.54$
	Uncontrollable	$M = 16.03$	$M = 18.17$	$M = 18.11$
		$SD = 2.93$	$SD = 3.14$	$SD = 3.03$
	Total	$M = 17.56$	$M = 17.72$	$M = 17.65$
		$SD = 3.26$	$SD = 3.38$	$SD = 3.32$

Table XIV

Means & standard deviations for "active"

		PERSPECTIVE		
		Traditional	Alternative	Total
ONSET				
	Controllable	$M = 13.33$	$M = 15.13$	$M = 14.34$
		$SD = 3.68$	$SD = 3.77$	$SD = 3.81$
	Uncontrollable	$M = 17.71$	$M = 18.21$	$M = 18.00$
		$SD = 4.29$	$SD = 3.94$	$SD = 4.08$
	Total	$M = 15.49$	$M = 16.67$	$M = 16.16$
		$SD = 4.54$	$SD = 4.14$	$SD = 4.34$

Table XV

Means & standard deviations for "emotions"

		PERSPECTIVE		
		Traditional	Alternative	Total
ONSET				
Controllable	$M =$	31.25	$M =$ 33.41	$M =$ 32.46
	$SD =$	5.81	$SD =$ 3.80	$SD =$ 4.88
Uncontrollable	$M =$	36.44	$M =$ 39.85	$M =$ 38.42
	$SD =$	5.01	$SD =$ 4.95	$SD =$ 5.22
Total	$M =$	33.77	$M =$ 36.67	$M =$ 35.42
	$SD =$	6.00	$SD =$ 5.46	$SD =$ 5.86

Table XVI

Differences among groups for the six factors (ANOVA statistics)

Factor	Interaction Effect	Main Effect for Onset	Main Effect for Perspective
Self-control	$F = 0.63$ $p = 0.43$	$F = 82.20^{**}$ $p = 0.00$	$F = 0.35$ $p = 0.56$
Jolliness	$F = 0.64$ $p = 0.43$	$F = 1.73$ $p = 0.19$	$F = 0.06$ $p = 0.81$
Similarity	$F = 0.12$ $p = 0.74$	$F = 4.93^*$ $p = 0.03$	$F = 0.40$ $p = 0.53$
Clean, good, & feminine	$F = 0.00$ $p = 0.99$	$F = 3.05$ $p = 0.08$	$F = 0.08$ $p = 0.78$
Active	$F = 1.09$ $p = 0.30$	$F = 36.43^{**}$ $p = 0.00$	$F = 3.46$ $p = 0.07$
Emotions	$F = 0.65$ $p = 0.42$	$F = 56.65^{**}$ $p = 0.00$	$F = 13.01^{**}$ $p = 0.00$

* $p < 0.05$. ** $p < 0.01$.

Summary of results

Participants who were informed that the target was overweight because of a glandular disorder (uncontrollable onset) rated the target more favorably than participants who were informed that she was overweight because of regular overeating and a sedentary lifestyle (controllable onset). Specifically, the uncontrollable onset group rated the target as having more self-control (e.g., less self-indulgent and more self-disciplined); they reported liking her and feeling similar to her more; they rated her as more active; and they judged her more favorably (e.g., less blame, anger, disgust, and pity reported toward the target) than the controllable onset group. There were no significant differences between these two groups for the jolliness and “clean, good, and feminine” factors.

The psycho-educational lecture did not seem to affect participants’ ratings of the target, with one exception. Participants who heard the alternative psycho-educational lecture reported more favorable emotions toward the target than participants who heard the traditional lecture. Specifically, the alternative lecture group reported less blame, anger, disgust, pity, and more liking and helping, as compared to the traditional lecture group. See Table XVII for a visual summary of results.

Table XVII

Summary of results

Factor	Main Effect for Onset	Main Effect for Perspective
Self-control	$U > C^1$	n.s.
Jolliness	n.s. ²	n.s.
Liking & similarity	$U > C$	n.s.
Clean, good, & feminine	n.s.	n.s.
Active	$U > C$	n.s.
Emotions	$U > C$	$A > T^3$

¹ $U > C$: Participants who were informed that the target is overweight because of uncontrollable reasons (i.e., glandular disorder) rated her more favorably than participants who were informed that she is overweight because of controllable reasons (i.e., regular overeating and sedentary lifestyle).

²n.s.: Differences between groups are not significant.

³ $A > T$: Participants who heard the alternative lecture (i.e., weight is not as controllable as commonly believed) rated the target more favorably than participants who heard the traditional lecture (i.e., it is important to be thin to be healthy).

Discussion

Results demonstrated that the reasons why the target became and remains overweight (i.e., onset) influenced participants' ratings of self-control, similarity, levels of activity, and emotions toward the target. Results also showed that hearing a lecture on the controllability of weight (i.e., perspective) influenced participants' reported emotions toward the target. That is, the psycho-educational intervention was effective in ameliorating participants' reported emotions.

Effects for onset

It is not surprising that participants who were informed that the target was overweight because of a glandular disorder (i.e., uncontrollable) rated her as having more self-control, being more likable, similar, active, and evoking more positive feelings toward her than participants who were informed that the target is overweight because of regular overeating and a sedentary lifestyle. Indeed, DeJong (1980;1993) and Weiner, Perry, & Magnusson (1988) reported similar findings.

DeJong (1980;1993) performed three experiments in which he manipulated information about the controllability of his targets' obesity. In each of these three experiments, he found that participants rated the normal-weight target more favorably than the overweight target on several dimensions. This effect was mitigated when participants were informed that the target had a glandular disorder. The present study is similar to DeJong's experiments in observing more positive ratings of self-control, liking, similarity, and activity levels. Also like DeJong, this study did not yield differences in ratings of jolliness. This finding suggests that the stereotype of an overweight person as jolly is not supported. The present study also observed no significant differences in terms

of the “clean, good, and feminine” items. Possibly, the stereotype of an overweight person as “sweet” is also not supported.

Weiner, Perry & Magnusson (1988) also performed a study in which they provided participants with information about the cause of a person’s obesity to manipulate participants’ perceptions of controllability. They reported significant differences between participants who received “uncontrollable” information and participants who received “controllable” information regarding the reasons a person is overweight. Specifically, when participants were informed that a person is overweight because of a glandular disorder, they held the person less responsible for being overweight and reported less blame and anger and more pity, liking, and help-giving attitudes. The present study yielded similar results. In fact, in this study, both the onset and maintenance information (why the target became and remains overweight) and the psycho-educational intervention (traditional or alternative perspectives) influenced the emotions of participants toward the overweight target.

Effects for perspective

The psycho-educational intervention in this study worked to ameliorate the emotions reported by participants toward the overweight target. Specifically, when participants were presented with information that asserted that weight is not as controllable as commonly believed, they held the target less responsible for her weight, and they reported less blame and anger and more pity, liking, and help-giving attitudes. In contrast to these positive effects of the intervention, no effects on the participants’ ratings of impressions (e.g., self-control) were found. Crandall (1994) also attempted to

change perceptions of controllability in order to alleviate negative evaluation of overweight people.

The intention of Crandall's (1994) study was to persuade participants that obesity is highly determined by genetic and physiological factors. He found that participants exposed to his two page persuasive message reported less dislike toward overweight people and held them less accountable for their weights. Thus, both the present study and Crandall's (1994) research show that changing perceptions about controllability of weight (not simply by relying on a medical condition like glandular disorder, but using heritability and weight loss studies as support) can enhance individuals' emotional reactions about overweight people.

The implications of these findings are huge. If the stigma experienced by overweight individuals for their weights can be alleviated by a relatively simple psycho-educational intervention, it would be worthwhile to explore the possibilities of widespread application of such an intervention. Overweight individuals definitely experience discrimination, as described in the introduction of this paper. Also delineated in the introduction is pertinent evidence about why weight is not as controllable as commonly believed. The genetic component of weight, as demonstrated by twin, adoption, and the Vermont prisoner study (Sims, 1989); the effects of dieting on metabolism; and the low success rate of weight loss interventions support the idea that weight is difficult to control. These findings are also the foundation of the psycho-educational intervention. Overweight individuals are stigmatized because of the public's perception of controllability regarding weight. And this perception is inconsistent with the evidence.

This study, DeJong's (1980;1993) experiments; Weiner, Perry, & Magnusson's (1988) research, Crandall's (1994) study, and Weiner's (1995) model demonstrate that changes in perceived controllability alleviate negative impressions and emotions expressed about overweight individuals.

Explanations of results

The most interesting part of the results of this study is that the psycho-educational intervention was effective in ameliorating participants' reported emotions (e.g., blame, anger, and pity), but it had no significant effect on their impressions of the target (e.g., self-control, similarity, and activity). It is possible that this difference can be explained by the very nature of the dependent variables. Specifically, the dependent variables of self-control, similarity, and activity (also used by DeJong (1980;1993)) are cognitively based evaluations or social judgments. That is, these dependent variables are impressions formed by the participants about the target. Conversely, the emotion factor (i.e., responsibility, blame, anger, pity, liking, and help-giving attitudes) are attributionally derived emotions. That is, they are emotional social judgments.

This explanation supports Weiner's (1995) theory of social judgments, which suggests that a person is more likely to be stigmatized when the cause of the stigma seems controllable rather than uncontrollable. Once this causal attribution is made, it influences the observer's emotions, expectations, and responsibility, and these in turn influence the observer's behaviour toward the individual. Weiner's theory does not include cognitively based impressions, which may not be especially relevant in making judgments of responsibility and stigmatizing people. For example, it is possible that it is not the impression that the overweight individual is self-indulgent that produces stigma,

but it might very well be the emotion of anger toward the overweight individual that leads to stigma. Stigmatization may be driven by emotion rather than by cognition.

However, it is too soon to rule out the relevance of cognitively based evaluations. It is possible that the interesting effects of the psycho-educational intervention can be explained by the instruments used in this study. The scales used to measure participants' emotions were developed by Weiner, Perry & Magnusson (1988) with the specific intention to measure attributionally derived emotions. Therefore, these items might be more sensitive in detecting subtle differences in emotion than the scales used by DeJong (1988;1993) to measure differences in personality dimensions. That is, the scales used to measure personality dimensions are crude instruments that are good for detecting dramatic differences. The glandular disorder information is a powerful intervention and therefore likely to influence cognitions. The psycho-educational interventions, however, is weaker and its effects might well show up in more subtle measures. Thus, in this study, both the sensitive emotional scales and the less sensitive cognitive measures were affected by the glandular disorder information, and the subtle emotional measures were only affected by the psycho-educational intervention.

Whether or not an overweight person has a glandular disorder strongly influences perceptions of responsibility and therefore social judgments. Specifically, when a glandular disorder is the perceived cause of an individual's obesity, the individual is held less accountable for being overweight. This finding has been demonstrated by this study, as well as the research of DeJong (1980;1993) and Weiner, Perry, & Magnusson (1988). Glandular disorder is attributed to uncontrollable factors and thus alleviates perceptions of controllability and negative reactions toward overweight individuals. The psycho-

educational interventions (used in Crandall's (1994) and this study) were designed to persuade participants that weight is less controllable than commonly believed, with the intention of alleviating stigma experienced by overweight people. The material presented in the interventions was drawn from heritability and weight loss studies. This material is in direct opposition with public beliefs about weight and the information propagated by the media. Therefore, it is more difficult to change perceptions of controllability using this type of psycho-educational intervention rather than the glandular disorder information. But the psycho-educational intervention has more far-reaching implications, especially as an application that can be used to alleviate stigma.

Recommendations for future research

1. The first issue that needs to be addressed is the generalizability of these findings to different targets and overweight people in general.
2. Crandall's (1994) Antifat Attitudes items would be an informative dependent variable for future studies on the effects of changes in perceived controllability on attitudes toward overweight people in general (as opposed to rating a target overweight person).
3. It will also be useful to determine if the amelioration of negative emotions toward the target lasts over time and in the face of the responsibility attributed to overweight people by our culture.
4. It is yet to be determined whether or not changes in perceived controllability and emotions about stigmatized individuals will result in changes in behaviour toward stigmatized individuals.

5. It would be helpful to replicate this research using sensitive scales, which are specifically developed to detect subtle differences in personality impressions to determine the influence of a psycho-educational intervention on cognitively based evaluations.
6. Another fascinating issue would be the effects of changes in perceived controllability on the self-evaluation of overweight people themselves.

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Appendix A: Test of Attitudes about Weight

Please indicate the extent to which you agree with the following statements.

1. It is important to be thin or average weight to be healthy.

Disagree 1 2 3 4 5 6 7 Agree

2. Being overweight is a risk factor for many physical illnesses, including heart disease.

Disagree 1 2 3 4 5 6 7 Agree

3. Long-term weight loss is an appropriate goal for overweight people.

Disagree 1 2 3 4 5 6 7 Agree

4. An individual's weight is highly determined by genetics.

Disagree 1 2 3 4 5 6 7 Agree

5. People who are overweight should lose weight to improve their health.

Disagree 1 2 3 4 5 6 7 Agree

6. People can easily change their weight at will.

Disagree 1 2 3 4 5 6 7 Agree

7. People should be held responsible for how much they weigh.

Disagree 1 2 3 4 5 6 7 Agree

8. Thin people are healthy.

Disagree 1 2 3 4 5 6 7 Agree

Appendix B: Traditional Perspective Lecture

Slide 1

Being Overweight:

Statistics, Definitions, Consequences,
& Solutions

Slide 2

Statistics

- 35% of Canadian men and 27% of Canadian women can be considered obese
- over 50% of Canadian men and women are considered to be overweight and at risk for weight related health problems
- (Sibbald, 1998)

Slide 3

Definitions

- The current measure for determining weight status is the Body Mass Index (BMI), which is calculated as follows: $\text{Weight (in Kg.)} / \text{Height (in Meters) Squared (Ht. x Ht.)}$.
- A "normal" BMI for Adults is about 22 to 23.

Slide 4

Definitions (continued)

- A BMI of greater than 25 is generally considered overweight.
- A BMI over 30 is considered obese
- (World Health Organization Criterion)

Slide 5

Consequences

- The likelihood of developing medical complications associated with being overweight increases with greater BMIs.
- Being overweight is associated with many risk factors, including heart disease, diabetes, high blood pressure, arthritis, and gall stones.

Slide 6

Consequences (continued)

- Research demonstrates that, overall, people who are thinner are healthier and feel better about themselves than people who are heavier.
- Being overweight is also associated with low self-esteem and a poor quality of life.
- (Jeffery et al., 2000)

Slide 7

Consequences (continued)

- People who are heavier tend to feel bad about being overweight, blame themselves for being overweight, and get frustrated with their attempts to lose weight.
- Being overweight is dangerous to one's physical and psychological well-being, therefore overweight individuals should lose weight to be more healthy.
- (Fine et al., 1999; Jeffery et al., 2000; Kieman et al., 1998)

Slide 8

Solutions

- Overweight people should attempt to eat a well-balanced healthy diet and exercise regularly to lose weight.
- It is important for overweight and obese individuals to get appropriate medical help to reduce their weights and avoid the long-term complications associated with excess body fat.
- (Jeffery et al., 1998; 2000)

Slide 9

Solutions (continued)

- Losing weight is important because, if maintained, even small weight losses (as little as 10% of body weight) improve health.
- Experts claim that a combination of better diets (less fat and more fruit and vegetables) and more exercise (i.e., behavior modification) help people lose weight.

Slide 10

Solutions (continued)

- For more severe cases, drug therapy or surgery are used to help obese people lose weight.
- (Fine et al., 1999; Jeffery et al., 2000; Kiernan et al., 1998)

Slide 11

Summary

- Overweight individuals are at risk for many health-related problems.
- They are also prone to feeling bad about themselves because of their weights.
- Safe weight loss is recommended for overweight individuals for improved physical and emotional health.

Appendix C: Alternative Perspective Lecture

Slide 1

Being Overweight:

Statistics, Definitions, Consequences,
& Solutions

Slide 2

Statistics

- 35% of Canadian men and 27% of Canadian women can be considered obese
- over 50% of Canadian men and women are considered to be overweight and at risk for weight related health problems
- (Sibbald, 1998)

Slide 3

Definitions

- The current measure for determining weight status is the Body Mass Index (BMI), which is calculated as follows: $\text{Weight (in Kg.)} / \text{Height (in Meters) Squared (Ht. x Ht.)}$
- A "normal" BMI for Adults is about 22 to 23.

Slide 4

Definitions (continued)

- A BMI of greater than 25 is generally considered overweight.
- A BMI over 30 is considered obese
- (World Health Organization Criterion)

Slide 5

Consequences

- The likelihood of developing medical complications associated with being overweight increases with greater BMIs.
- Being overweight is associated with many risk factors, including heart disease, diabetes, high blood pressure, arthritis, and gall stones.

Slide 6

Consequences (continued)

- Research demonstrates that, overall, people who are thinner are healthier and feel better about themselves than people who are heavier.
- Being overweight is also associated with low self-esteem and a poor quality of life.
- (Jeffery et al., 2000)

Slide 7

Consequences (continued)

- People who are heavier tend to feel bad about being overweight, blame themselves for being overweight, and get frustrated with their attempts to lose weight.
- A focus on physical and emotional health is recommended for people who are overweight.
- (Berg, 1999; Miller, 1999; Emsberger & Koletsky, 1999)

Slide 8

Solutions

- Overweight people should attempt to eat a well-balanced healthy diet and exercise regularly to be healthy.
- It is important for overweight and obese individuals to focus on health rather than on losing weight.

Slide 9

Solutions (continued)

- There is no substantial evidence that proves that losing weight will improve one's health (Lyons & Miller, 1998).
- Furthermore, studies have shown that individuals who are successful in losing weight typically regain. Long term weight loss is rare. People who lose weight tend to regain it (Jeffery et al., 2000).

Slide 10

Solutions (continued)

- The consequences of repeatedly losing and gaining weight tend to be more harmful than maintaining one's current weight, even if it is considered to be overweight.
- People's weights are highly determined by genetics, and permanent weight loss is difficult and frustrating.
- (Yanovski & Yanovski, 1999)

Slide 11

Solutions (continued)

- The commonly held belief that thinness is indicative of health is a myth. This myth needs to be exposed because it has negative consequences on many people.
- It is not necessary to be thin to be healthy. It is necessary to be healthy to be healthy.

Slide 12

Solutions (continued)

- It is extremely difficult for people to control their weights.
- Genetics play a big role and long-term weight loss is typically rare.
- It is important to keep this in mind when dealing with health and weight concerns, personally and with others.

Slide 13

Summary

- Overweight individuals are at risk for many health-related problems.
- They are also prone to feeling bad about themselves because of their weights.
- Focusing on healthy eating and regular physical activity is a sensible goal for improving health and preserving well-being.

Appendix D: Test on Lecture and Attitudes

Please indicate the extent to which you agree with the following statements.

1. Over 50% of Canadian men and women are considered to be overweight.

Disagree 1 2 3 4 5 6 7 Agree

2. The current measure for determining weight status is the Body Mass Index (BMI).

Disagree 1 2 3 4 5 6 7 Agree

3. Being overweight is associated with many health-related risk factors.

Disagree 1 2 3 4 5 6 7 Agree

4. People who are overweight should lose weight to improve their health.

Disagree 1 2 3 4 5 6 7 Agree

5. People can easily change their weight at will.

Disagree 1 2 3 4 5 6 7 Agree

6. It is important to be thin or average weight to be healthy.

Disagree 1 2 3 4 5 6 7 Agree

7. Genetics play a big role in determining a person's weight.

Disagree 1 2 3 4 5 6 7 Agree

8. People should be held responsible for how much they weigh.

Disagree 1 2 3 4 5 6 7 Agree

9. Thin people are healthy.

Disagree 1 2 3 4 5 6 7 Agree

10. Overweight people are not healthy.

Disagree 1 2 3 4 5 6 7 Agree

Appendix E: Picture of Target



Appendix F: Vignettes

(the following will be noted under the picture)

Onset controllable:

This is a picture of Jen, a first year undergraduate student. She became overweight because of regular over-eating and living a sedentary lifestyle.

Onset uncontrollable:

This is a picture of Jen, a first year undergraduate student. She became overweight because of a thyroid condition, which is a medical condition that causes Jen to gain weight. There is nothing Jen can do to prevent being overweight.

Appendix G: Dependent Variables

I. Rate Jen on the following traits from 1 (not very) to 7 (very):

A) Self-indulgence	1	2	3	4	5	6	7
B) Self-discipline	1	2	3	4	5	6	7
C) Laziness	1	2	3	4	5	6	7
D) Warmth	1	2	3	4	5	6	7
E) Friendliness	1	2	3	4	5	6	7
F) Happiness	1	2	3	4	5	6	7
G) Self-confidence	1	2	3	4	5	6	7

II. Answer the following questions about Jen on a scale from 1 (not very much) to 7 (very much):

A) Do you think you would like Jen?

1 2 3 4 5 6 7

B) If you met Jen at a party or in class, do you think you would become close friends?

1 2 3 4 5 6 7

C) Do you think you would like to introduce Jen to your friends?

1 2 3 4 5 6 7

D) How similar is Jen to yourself in wants, needs, and goals?

1 2 3 4 5 6 7

E) Rate Jen's physical attractiveness.

1 2 3 4 5 6 7

III. Please rate Jen on the following characteristics:

Clean	1	2	3	4	5	6	7	Dirty
Good	1	2	3	4	5	6	7	Bad
Masculine	1	2	3	4	5	6	7	Feminine
Strong- Willed	1	2	3	4	5	6	7	Weak- Willed
Active	1	2	3	4	5	6	7	Passive
Fast- Moving	1	2	3	4	5	6	7	Slow- Moving
Sharp- Thinking	1	2	3	4	5	6	7	Dull- Thinking

IV. Please indicate how much you agree or disagree that the following statements describe your sentiments towards Jen on a scale from 1 (strongly disagree) to 7 (strongly agree).

1) Jen has no control over her weight.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

2) Jen should be blamed for her being overweight.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

3) I like Jen.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

4) I am angry at Jen.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

5) I am disgusted by Jen.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

6) I pity Jen.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

7) The health-care system should help Jen.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

IV. To what extent would you recommend the target to engage in the following behaviors if she were to ask you for advice on improved health and well-being (from 1 (not very) to 7 (very)):

Diet	1	2	3	4	5	6	7
Exercise	1	2	3	4	5	6	7
Weight loss	1	2	3	4	5	6	7
Strength training	1	2	3	4	5	6	7
Cardio training	1	2	3	4	5	6	7
Self-esteem therapy	1	2	3	4	5	6	7
Hypnosis	1	2	3	4	5	6	7
Diet pills	1	2	3	4	5	6	7

Medical intervention 1 2 3 4 5 6 7

Please answer the following questions about yourself. Remember the information you provide will remain strictly confidential. Your responses cannot be identified by your student name or number so that means that your responses are completely anonymous.

1) How tall are you? _____ feet _____ inches
 _____ centimeters

(You only need to indicate your height in one of the above measurements.)

2) How much do you weigh? _____ pounds
 _____ kilograms

(You only need to indicate your weight in one of the above measurements.)

3) Do you consider yourself muscular?

1	2	3	4	5	6	7	8	9	10
not at all								very	

4) Are you physically active?

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

not
at all

very

Please describe the type and amount of physical activity in which you participate on a typical week.

5) Please identify the people in your group of family and friends who are overweight.

_____ biological mother

_____ biological father

_____ non-biological parent (write down the number if there are more than one)

_____ grandparent (write down the number if there are more than one)

_____ sister (write down the number if there are more than one)

_____ brother (write down the number if there are more than one)

_____ friend (write down the number if there are more than one)

_____ boyfriend or girlfriend

_____ other (please identify _____)

Appendix H: Debriefing Form

Thank you for your participation in this study, which is being conducted by the Department of Psychology at the University of Manitoba. The investigators of this study are Teresa Grosko, a Master of Arts candidate, and Dr. Michael LeBow, a researcher and professor of psychology. The study is being funded by FCAR, a Quebec government organization for research.

The purpose of this study is to determine whether or not changes in raters' perceived controllability of weight will alleviate the stigma experienced by overweight individuals. Overweight people are highly stigmatized (e.g., they are less likely to be chosen as employees, friends, romantic partners, and tenants than are normal-weight individuals). Several researchers propose that this stigma can be alleviated if perceptions of responsibility can be changed from controllable to uncontrollable (Weiner, 1995; Weiner, Perry, & Magnusson, 1988).

This study compared the evaluations of an overweight woman between two groups of raters: those who were presented with information that adheres to the traditional approach to weight and those who were presented with information that adheres to an alternative approach to weight. It is hypothesized that participants who were exposed to the alternative perspective (i.e., weight is less controllable than commonly believed) will rate the target more favorably than participants who were exposed to the traditional perspective (i.e., weight is controllable).

If you are interested in learning more details about this study or about the results, please do not hesitate to contact me by email . I thank you again for your participation.

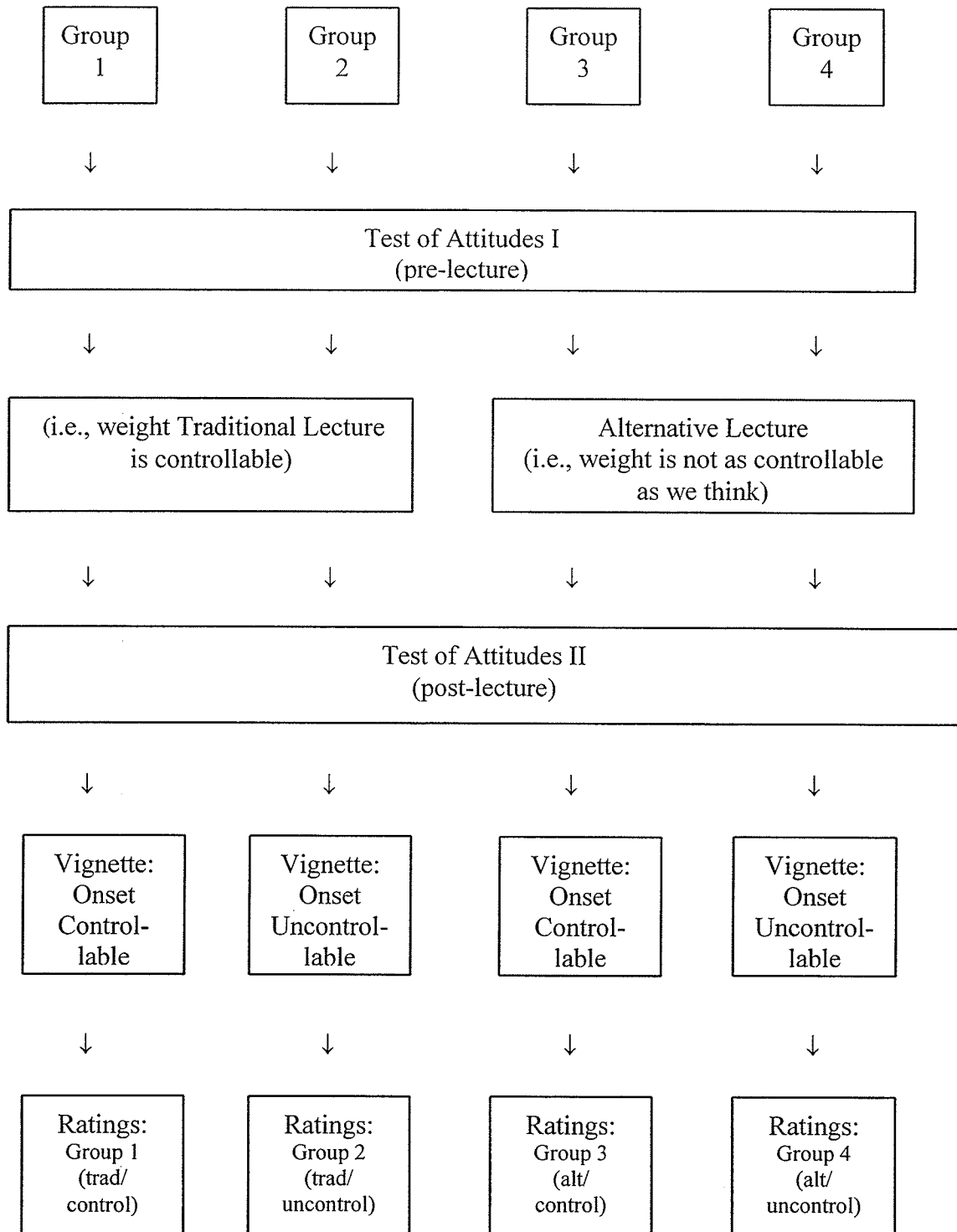
Sincerely,

Teresa Grosko

References

- Weiner, B. (1995). Judgments of responsibility: A foundation for a theory of social conduct. New York: Guilford Press.
- Weiner, B., Perry, R. P., & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. Journal of Personality and Social Psychology, 55, 738-748.

Appendix I: Flow Chart Describing Methods



Appendix J: Analysis of variance tables for factors

Table XVIII

Analysis of variance for "self-control"

Source	<i>df</i>	<i>F</i>
Onset (O) ¹	1	82.20**
Perspective (P) ²	1	0.35
O x P	1	0.63
Error	159	(7.70)

Note. Values enclosed in parentheses represent mean square errors.

¹Onset (O): Participants received information about why the target is overweight.

²Perspective (P): Participants were presented with a psycho-educational lecture.

* $p < 0.05$. ** $p < 0.01$.

Table XIX

Analysis of variance for "jolliness"

Source	<i>df</i>	<i>F</i>
Onset (O) ¹	1	1.73
Perspective (P) ²	1	0.06
O x P	1	0.64
Error	158	(18.16)

Note. Values enclosed in parentheses represent mean square errors.

¹Onset (O): Participants received information about why the target is overweight.

²Perspective (P): Participants were presented with a psycho-educational lecture.

* $p < 0.05$. ** $p < 0.01$.

Table XX

Analysis of variance for "similarity"

Source	<i>df</i>	<i>F</i>
Onset (O) ¹	1	4.93*
Perspective (P) ²	1	0.40
O x P	1	0.12
Error	157	(53.08)

Note. Values enclosed in parentheses represent mean square errors.

¹Onset (O): Participants received information about why the target is overweight.

²Perspective (P): Participants were presented with a psycho-educational lecture.

* $p < 0.05$. ** $p < 0.01$.

Table XXI

Analysis of variance for “clean, good, and feminine”

Source	<i>df</i>	<i>F</i>
Onset (O) ¹	1	3.05
Perspective (P) ²	1	0.08
O x P	1	0.00
Error	160	(11.01)

Note. Values enclosed in parentheses represent mean square errors.

¹Onset (O): Participants received information about why the target is overweight.

²Perspective (P): Participants were presented with a psycho-educational lecture.

* $p < 0.05$. ** $p < 0.01$.

Table XXII

Analysis of variance for "active"

Source	<i>df</i>	<i>F</i>
Onset (O) ¹	1	36.43**
Perspective (P) ²	1	3.46
O x P	1	1.09
Error	159	(15.34)

Note. Values enclosed in parentheses represent mean square errors.

¹Onset (O): Participants received information about why the target is overweight.

²Perspective (P): Participants were presented with a psycho-educational lecture.

* $p < 0.05$. ** $p < 0.01$.

Table XXIII

Analysis of variance for "emotions"

Source	<i>df</i>	<i>F</i>
Onset (O) ¹	1	56.65**
Perspective (P) ²	1	13.01**
O x P	1	0.65
Error	159	(23.83)

Note. Values enclosed in parentheses represent mean square errors.

¹Onset (O): Participants received information about why the target is overweight.

²Perspective (P): Participants were presented with a psycho-educational lecture.

* $p < 0.05$. ** $p < 0.01$.