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## (In)Visible: An Examination of Eating Disorder Detection in Marginalized Women as a Function of Weight Status and Ethnic Group Membership

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A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Psychology

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## Abstract

Women with eating disorders (EDs) from marginalized groups (e.g., higher weight women; Women of Colour) are under-treated compared to non-marginalized women. A reason for these disparities may be that women from marginalized groups do not fit the stereotype of a person with an ED (e.g., thin, White), and therefore ED symptoms are not recognized. The present study tested the impact of weight status and ethnic group on layperson detection of ED symptomology. Undergraduate students ( $N = 194$ ) read a personal disclosure from a female target describing eating pathology. The target was described as “underweight”, “average weight” or “overweight” and as White or Black. Participants indicated their recognition of an ED, prescriptions for the target, and relevant social perceptions of the target. Results suggest that EDs were more likely to be detected in underweight targets than overweight targets, with minimal differences between ethnic groups. This research illuminates the entrenchment of weight stigma in lay perceptions of EDs, with implications for intervention.

*Keywords:* eating disorders, stereotypes, marginalized groups, Women of Colour, weight stigma

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To Mimi – Your voice is undeniably important. I dedicate this thesis to you.

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## Chapter 1

### 1 Introduction

Eating disorders (EDs) are mental illnesses characterized by patterns of maladaptive cognitions and behaviours around eating, exercise and weight (American Psychiatric Association, 2013). Prior research primarily focuses on Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Binge Eating Disorder (BED); however, many individuals with eating disorders do not fit into the predetermined diagnostic categories and are diagnosed with “other specified feeding or eating disorder” (American Psychiatric Association, 2013). Eating disorders pose a prominent public health threat to the lives of all individuals, with notably high prevalence rates among girls and women. It is estimated that over 900,000 women in Canada and 20 million women in the United States suffer from an eating disorder (Canadian Mental Health Association, 2005; Lipson & Sonnevile, 2017). Decades of studies link serious negative health consequences to eating disorders, including cardiovascular complications, low bone density, impaired immune functioning, sexual dysfunction, depression and even death (see Kaye, 2018).

Eating disorders exist across all gender, ethnic<sup>1</sup> and weight categories (Hudson et al., 2007; Lipson & Sonnevile, 2017; Sala et al., 2013; Swanson et al., 2011). Although the exact prevalence of eating disorders in marginalized groups is unavailable, aggregated data suggest more similarities than differences in prevalence across social categories (Marques et al., 2011). These similar rates in prevalence converge with the findings that help-seeking for eating disorders does not significantly differ between members of marginalized groups and members of

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<sup>1</sup> In psychological scholarship, *ethnicity* and *race* have been used interchangeably to describe ethnic background. However, Critical Race Theory (2000) and prominent social justice movements advise against using the term *race* in academic literature. As such, this paper will use “ethnicity” to describe ethnic background.

non-marginalized groups (Cachelin, 2001; Gordon et al., 2002). Despite the similarities in prevalence and help-seeking for eating disorders, there is one critical difference: members of marginalized groups are less likely to receive treatment for eating disorders compared to members of non-marginalized groups (Marques et al., 2011; Lipson & Sonneville, 2017).

## 1.1 The Eating Disorder (ED) Stereotype

A contributing factor to the prevailing disparities in treatment for eating disorders between marginalized and non-marginalized groups is that women with eating disorders from marginalized groups do not fit stereotyped representations of a person with an eating disorder, and therefore are overlooked in intervention efforts. In historical and contemporary scholarship, eating disorders have been stereotyped as diseases of wealth, solitude and self-discipline (O'Connor et al., 2015), and are typically conceptualized as selectively affecting skinny, White, affluent girls (or SWAG; Bruch, 1973, Lipson & Sonneville, 2017). In addition, the SWAG stereotype runs counter to more general stereotypes of women from marginalized groups, including that Women of Colour are loud, have untamed appetites, and have a positive body image, or that higher weight women are lazy, unhealthy, and lack self-control (Calogero, Tylka & Mensinger, 2016; Gordon et al., 2002; Greenleaf et al., 2006; Perez & Joiner, 2003). Accordingly, eating disorders have long been associated with thin, White women and dissociated from Women of Colour and women of higher weight status (Bruch, 1973). As a result, individuals from these marginalized groups may not recognize their need for intervention and support, may not be properly screened for eating disorders by health professionals, and/or may not be referred to eating disorder treatment (Mulders-Jones et al., 2017; Shaw et al., 2004; Lipson & Sonneville, 2017).

Compounding the problem of underrepresentation in treatment settings is the overreliance in research on clinical rather than community samples of individuals with eating disorders. Research conducted in clinical eating disorder samples may unintentionally reaffirm the SWAG stereotype because of the structural barriers that prevent women from marginalized populations from entering treatment programs, and thus researchers test a privileged and narrow demographic (Hart et al., 2011; Mulders-Jones et al., 2017). Women from marginalized groups cite lack of finances, insurance, and accessible resources as barriers to eating disorder treatment (Cachelin et al., 2000). As a result, studies with clinical samples are not representative of the wider population of women with eating disorders, and perpetuate common misconceptions about who can and cannot develop an eating disorder. Basing psychological theory and training on studies restricted to affluent locations such as privatized treatment centres fails to inform comprehensive and inclusive evidence-based practice in the treatment of eating disorders (Thompson, 1994).

The application of eating disorder stereotypes renders women belonging to marginalized groups invisible in the context of eating disorder discourse, prevention, treatment, and research. Subsequently, peers, family members, and clinicians may fail to recognize, validate, and treat disordered eating symptomology in women belonging to marginalized groups. In this thesis, I will focus on eating disorder detection among women who belong to multiple marginalized groups, specifically ethnic and weight status groups.

## 1.2 ED Detection in Ethnic Minority Women

Consistent with the research described above, disordered eating behaviours in ethnic minority girls (i.e. Hispanic or Black) are less likely to be recognized by clinicians and university students than disordered eating behaviours in White girls (Gordon et al., 2002; Sala et al., 2013).

In an experimental study (Gordon et al., 2002), participants received one of three passages describing the daily activities of a girl (“Mary”) that reflected disordered eating and exercise behaviours. The passages differed only in regards to Mary’s ethnicity (Hispanic, African American, or Caucasian). When asked if Mary had a problem, participants were more likely to respond “no” if she was described as belonging to an ethnic minority group than when she was described as White. These findings occurred despite the fact that the participants evaluated the same passage depicting severe eating disorder symptoms. Similarly, Becker and colleagues found that Black and Latinx individuals with self-reported disordered eating and weight concerns were significantly less likely to have been asked further questions about eating disorder behaviours by their general practitioner than White individuals (Becker et al., 2015). Non-White individuals were also less likely to be referred for eating disorder treatment by their general practitioner than White individuals. The results remained significant even when controlling for the severity of the eating disorder symptoms.

### 1.3 Ethnic Minority Membership and ED Vulnerability

These findings are especially problematic because ethnic minority group membership presents unique risks factors for eating disorder development. The assumption that Women of Colour are untouched by eating and weight-related distress is built on the longstanding dichotomous stereotypes for Women of Colour and White women. For example, the stereotypical portrayal of White women as higher social class, appearance-focused, and dieting is complemented by the stereotypical portrayal of Women of Colour as lower social class, poor, and hungry, and therefore not susceptible to sociocultural pressures of thinness (Thompson, 1994). For many Women of Colour, however, internalized racism and acculturative stress magnify appearance-related pressures and contribute to the development of eating disorders

(Gilbert, 2003; Puhl & Suh, 2015). Some scholars have argued that the attempt to modify, control, or escape their bodies may provide a pathway for responding to ethnicity-based social injustices (Thompson, 1994). In fact, the chronic stressors accompanying ethnic minority identification situates Women of Colour at increased risk for negative mental and physical health outcomes (Paradies, 2015). Additional ethnic stereotypes portraying Women of Colour as nurturing, strong, and self-sacrificing may perpetuate eating pathology in Women of Colour through pressure to internalize and dismiss their own distress (Gilbert, 2003; Gilbert & Thompson, 1996). Accordingly, the characterization of Women of Colour as self-reliant may make it challenging for Women of Colour to voice the seriousness or extent of their eating concerns to physicians or anyone (Gilbert, 2003).

Having facial and body attributes that do not feature into the dominant culture's Eurocentric beauty standards may further exacerbate ethnicity-based prejudice and discrimination (Thompson, 1994). Women of Colour must navigate differing cultural values of appearance while managing the stress of societal and interpersonal stigmatization. They encounter appearance-related pressure from ethnic characterizations of attractiveness, which often emphasize a curvaceous figure and femininity, and mainstream culture, which values thinness and European features (Davis, Sbracco, Odoms-Young & Smith, 2010; Thompson, 1994). To cope with such experiences and fit into the dominant culture, Women of Colour may be more motivated than White women to adopt attitudes and behaviours that bring them closer to the beauty standards of thinness and attractiveness (Gilbert, 2003). Consistent with this hypothesis, disordered eating among ethnic minority women has been found to be related to assimilation to White culture (Abrams et al., 1993; Gilbert, 2006, Firukawa, 1994). The unique

experiences and pressures associated with ethnicity-based marginalization highlight why Women of Colour are equally or more susceptible to eating disturbances than White women.

## 1.4 ED Detection in Fat Women

Being at a higher weight status, or fat<sup>2</sup>, also renders eating disorder symptoms invisible, or perhaps worse, commendable, because of the misguided assumption that fat people should be pursuing weight loss (Lee & Pausé, 2016; Lyons, 2009; Puhl & Heuer, 2010). A recent experimental study found that lay perceptions of a higher weight person with disordered eating reflected encouragement of the disordered eating behaviours and pursuit of weight loss, whereas lay perceptions of a lower weight person with the exact same disordered eating reflected discouragement of the disordered eating behaviours and pursuit of weight loss (Calogero, Head & Siegel, 2018). These findings converge with broader patterns showing that it takes a year longer for higher weight people to be diagnosed with an eating disorder (Lebow, Sim & Kransdorf, 2015), despite the need for early intervention and treatment. In a study of 9,713 college students from the United States, students with a BMI (Body Mass Index) in the “overweight” or “obese” range were at the highest risk for eating disorder symptoms, and students with a BMI in the “underweight” range were at the lowest risk (Lipson & Sonnevile, 2017).

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<sup>2</sup> The word “fat” has historically been associated with derogation of large-bodied people, but fat acceptance activists, who advocate for civil rights on the basis of body size, have reclaimed the word “fat” as a neutral descriptor like “tall” (Cooper 1998; Saguy & Gruys, 2010; Wann 1999). In this thesis, the terms “fat” and “higher weight” will be used to describe individuals who are classified as overweight and obese according to standard charts of Body Mass Index (BMI).

## 1.5 High Weight Status and ED Vulnerability

Many experiences associated with living in higher weight bodies place women at significantly greater risk for eating disorder development, including weight stigmatization and appearance-related teasing (O'Hara & Gregg, 2010; Sim, Lebow & Billings, 2013; Tomiyama, 2014). Weight stigma, also known as weightism, refers to the social devaluation, denigration, and marginalization of people who are fat (Calogero, Tylka & Mensinger, 2016). Weight stigmatization occurs through overt actions (e.g., weight-related teasing, harassment, violence) and subtle behaviours (e.g., microaggressions such as encouraging dieting and sharing tips for weight loss); however, all forms of weight stigmatization are damaging to individuals who are the targets of this discrimination (see Puhl & King, 2013, for a review). Internalized weight stigma reflects societal attitudes and stereotypes about body size, which affect how we perceive and behave towards a person based on weight status (Calogero et al., 2016). Mainstream media portrayals of higher weight people as responsible for their body size and weight and as lacking in willpower and gluttonous reinforce and further perpetuate societal weight stigma (Puhl & Suh, 2015).

Experimental studies have shown that exposure to weight stigmatizing stimuli leads to increased calorie consumption and feelings of being out of control in higher weight women compared to women of average or lower weight (Major et al., 2014; Schvey, Puhl, & Brownall, 2011). In one study, participants who viewed weight stigmatizing video clips from popular television that depicted teasing and evoked negative weight-based stereotypes (e.g., slow and lazy) consumed three times the number of calories consumed by participants who viewed neutral video clips (Schvey, Puhl, & Brownall, 2011). Studies have also demonstrated strong positive correlations between internalization of weight stigma (e.g., blaming oneself for one's weight,

low self-worth due to body size) and eating pathology, poor body image, and binge eating behaviours (Durso et. al, 2012; Hilbert et al., 2014; Pearl, White & Grilo, 2014).

Eating disorder intervention efforts often target individuals with a lower body weight, while higher weight individuals are targeted for weight loss interventions (Conasan, 2017). Dieting is a robust predictor of eating disorder development and weight gain (Lowe, 2013); however, medical professionals, family members, and peers frequently encourage restriction, diet pills, calorie limitations, and elimination of food groups among fat women. Essentially, the same eating disorder behaviours that are diagnosed in women of lower weight status are prescribed to higher weight women (Burgard, 2009).

## 1.6 Intersectionality in ED Detection

According to intersectionality theory (Crenshaw, 1994; Glenn, 1999; Ziin & Dill, 1996), social identities such as ethnicity, class, and gender do not operate independently of one another. Instead, these identities interact with one another, and foster unique cognitions and experiences that are not the result of a single social category alone (Warner, 2008). In other words, one category of social identity, such as weight status, takes its meaning as a category in relation to another category of social identity, such as ethnicity (Shields, 2008). Group identities based on the intersection of gender, ethnicity and weight status (i.e., being a fat Woman of Colour) cannot be explained by the summation of the isolated social categories (fat, Person of Colour, female). The “fat Women of Colour” social identity combination leads to distinct life experiences, such as unique forms of discrimination, that must be understood in relation to the power ingrained in each social identity (Ghavami & Peplau, 2012). Indeed, intersectionality illustrates how our own behaviours and the responses of others in our social landscape are dependent on the hierarchies of status and power that are embedded in social group membership (Sidanius & Pratto, 1999).



The hierarchical positioning of social identities shapes how we perceive and behave towards others based on their appearance. Some groups are praised as inspiration (e.g., thin bodies), while other groups are targets for derogation because they are situated at the intersection of multiple marginalized identities (e.g., fat non-White bodies; Purdie-Vaughns & Eibach, 2008; Thompson, 1994).

Moreover, some individuals with multiple marginalized identities do not fit the prototypes of their constituent groups, and thus experience marginalization within their marginalized group. Purdie-Vaughns and Eibach (2008) refer to the phenomenon in which individuals with intersecting social identities are made invisible as “intersectional invisibility.” Fat Women of Colour are invisible historically (e.g., the absence of fat Women of Colour in mainstream Black history, women’s history and fat studies history), politically (e.g., advocacy groups’ neglect of the issues faced by fat Women of Colour), socially (e.g., the exclusion of fat Women of Colour from peer groups), and even scientifically. Previous studies have examined eating pathology among women (e.g., Fulton, 2016), fat women (e.g., Neumark-Sztainer et al., 2002), and Women of Colour (e.g., Bridgeman, 2014), but fat Women of Colour are markedly underrepresented in the eating disorder literature. In addition, although a small number of weight stigma studies include ethnicity as a moderator of the link between experiences of discrimination and health outcomes (e.g. Himmelstein, Puhl, & Quinn, 2017), research on weight stigma is conducted on predominantly White samples (Meadows & Calogero, 2018). The invisibility of fat Women of Colour precedes harmful consequences such as misrepresentation, further marginalization, invalidation, and disempowerment (Gilbert, 2003; Purdie-Vaughns & Eibach, 2008; Thompson, 1994). Although some scholars have suggested that being less socially visible may bestow a small advantage for members of marginalized populations who encounter more

overt prejudice (Purdie-Vaughns & Eibach, 2008), in the context of diagnosis and treatment for an eating disorder, this invisibility could be fatal.

## 1.7 Multiple Marginalized Identities and ED Vulnerability

The dual marginalization faced by fat Women of Colour magnifies a number of risk factors for the development of eating disorders: restriction, bingeing, purging, and compulsive exercise all serve as coping mechanisms to survive repeated social isolation and rejection (Thompson, 1994). However, the lack of representation of individuals with multiple marginalized identities in eating disorder research skews beliefs about who is vulnerable to eating pathology. As a result, eating disorder symptomology among fat Women of Colour may be undetected and/or dismissed by therapists and medical professionals. In addition, the invisibility of fat Women of Colour in the context of eating disorders treatment and prevention is augmented by the conceptualization of eating disorders as appearance-based illnesses. Due to the public perception that higher weight bodies are appealing to Men of Colour, fat Women of Colour are often praised for their defiance of Eurocentric beauty standards of thinness (Riley, 2002). Accordingly, the culture-of-thinness model of eating disorders contributes to the under-detection of eating pathology among fat Women of Colour based on the belief that they are not affected by thin idealized body types in society (Thompson, 1994). Consequently, fat Women of Colour are situated at multiple axes of oppression without life-saving eating disorder intervention.

In sum, the interplay of multiple marginalized group membership is a property of the individual's identity (i.e., being a fat Woman of Colour) as well as a reflection of the social context inhabited by the individual (i.e., structural weight and ethnicity-based bias in the field of eating disorders). The physical characteristics associated with the stereotype of "eating

disordered women” are likely derived from a common perception of eating disorders (i.e. exclusively thin and White). Associations between thinness, Whiteness, and eating disorders may contribute to the under-detection of eating pathology among marginalized women and prevent them from accessing and obtaining the necessary resources to help them (e.g., referrals for support groups, treatment centres). Weight and ethnic stereotypes that counteract eating disorder stereotypes reinforce misguided assumptions about the physical presentation of eating disorders and may interfere with recognition of eating disorders in women belonging to multiple marginalized groups.

## 1.8 The Current Study

To date, there is a dearth of experimental research on the detection of eating disorders in marginalized groups of women. The purpose of this study was to examine whether social eating disorder stereotypes undermine detection of disordered eating among women from marginalized groups. Epidemiological studies on eating disorders suggest that rates of eating disorders are similar across marginalized and non-marginalized groups (see Lipson & Sonnevile, 2018, for a review). However, stereotypes about individuals with eating disorders reinforce the notion that only thin, White girls are susceptible to these life-threatening illnesses and warrant support and treatment (Marques et al., 2011; Schaefer et al., 2017). Given evidence that eating disorder treatment rates are lower among marginalized groups than among non-marginalized groups (Cachelin, 2001; Gordon et al., 2002), investigation into the role of stereotypes in eating disorder detection may shed light on a potential reason for these disparities.

Furthermore, the use of quantitative scientific methods to study questions related to intersectionality in psychology provides the opportunity to inform positive social change towards inclusivity in the diagnosis and treatment of eating disorders. In Else-Quest and Hyde’s (2016)

guidelines for examining intersectionality in quantitative psychological research, they propose that the main objectives of intersectional approaches are (1) to analyze the experience and meaning of belonging to intersecting social categories and (2) to examine how these social categories are constructed by power relations to empower certain social groups while limiting others. In this thesis, the social categories of weight status and ethnicity were interconnected, such that the significance of being fat and having an eating disorder is dependent on the significance of also being a Woman of Colour, for example. By framing social categories (i.e., weight status, ethnicity) as stimulus variables, intersectional social categories, such as fat Women of Colour, can be studied from the perspective of perceivers to examine how the intersection of weight status and ethnicity affects risk of under-detection of eating disorder symptomology in marginalized women (Else-Quest & Hyde, 2016; Johnson et al., 2012). In addition, individuals with eating disorders are more likely to disclose food and weight-related distress with peers than with medical professionals (e.g., school counselors; Price, Desmond, Price & Mossing, 1990). Thus, by testing these hypotheses among undergraduate students, eating disorders detection can be examined in a sample of people who are essential for early intervention.

Given the prevalence of the ‘thin, White’ stereotype for women with eating disorders, I expected less eating disorder detection and more negative judgments for targets that do not fit this stereotype (e.g., overweight and Black). I ground my ideas in intersectionality theory to arrive at my novel primary hypothesis that participants would be less likely to detect an eating disorder and more likely to recommend the continued pursuit of weight loss for the higher weight, ethnically marginalized target (i.e., Black overweight), which represents a counter-stereotypical appearance of a person with an eating disorder, whereas participants would be more

likely to detect an eating disorder and less likely to recommend the continued pursuit of weight loss for the lower weight, non-marginalized target (i.e., White underweight), which represents a stereotypical appearance of a person with an eating disorder.

To examine the degree to which participants detect an eating disorder and recommend ending the pursuit of weight loss, participants will respond to a series of single-item variables that assess the recognition of an eating disorder and behavioural prescriptions related to eating and exercise for the target. In order to investigate manifestations of weight stigma outside the context of eating disorder detection, participants will also respond to single-item variables that assess general beliefs about the target, the target's competency to perform social roles, the personality traits of the target, and the target's subjectivity. In addition, to provide a stronger test of the relationships between the main study variables, participants completed measures of prior weight-related teasing experiences, internalized weight stigma, anti-fat attitudes and fat phobia (Calogero et al., 2018). These variables were included to examine their independent relationships with the outcome variables and to determine if random assignment to the experimental conditions was successful.

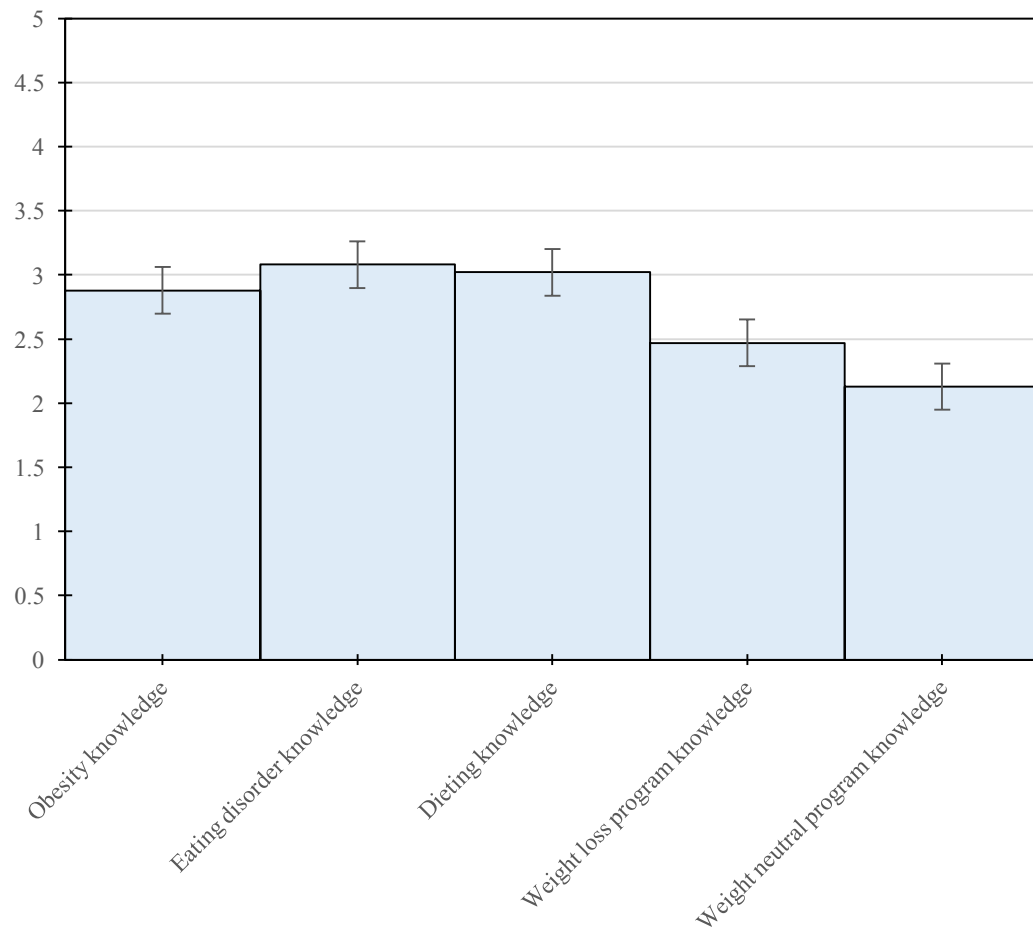
## Chapter 2

### 2 Method

#### 2.1 Participants

The study was approved by the Western University Research Ethics Board for Non-medical Research Involving Human Subjects (see Appendix A for approval). Participants were a mixed-gender sample of undergraduate students enrolled in a psychology course. Two hundred and twenty-one participants were recruited from Western University's SONA system database in

exchange for course credit. Participants were excluded from analysis if they incorrectly recalled the target's weight status or ethnicity ( $n = 20$ ), were not fluent in English ( $n = 2$ ), or experienced a disruption during the experimental procedure (e.g., a computer malfunction mid-survey resulting in loss of the participant's data;  $n = 5$ ). The final sample included 194 undergraduate students (62% female) aged 17-36 ( $M_{\text{age}} = 18.57$ ,  $SD_{\text{age}} = 1.88$ ). Most participants identified as Asian (42%), followed by Caucasian (40%), Hispanic (2%), African-American/African-Canadian (2%) and Pacific Islander (1%). Additionally, 12% of participants identified as belonging to an ethnic group not specified. Most participants identified as middle class (44%) with a secondary school diploma (56%). Additionally, most participants indicated they were moderately knowledgeable of obesity (40%), eating disorders (41%), and dieting (39%). Most participants indicated they were slightly knowledgeable about weight loss programs (31%), but not knowledgeable at all about weight neutral programs (41%; see Figure 1 for the means and standard errors on these variables). Participants' gender identification was collected with the intention to analyze gender differences in perceptions; however, the number of men in the sample was not sufficient to test reliable comparisons. Additional demographic characteristics of participants can be found in Table 1.



*Figure 1.* Means and standard errors for eating disorder-related knowledge variables across all participants ( $N = 194$ ). No significant differences in means on these variables between experimental conditions were observed.

**Table 1**  
*Demographic Characteristics of the Study Sample (N=194)*

Characteristic	N(%)
Education	
Secondary level	109(56.2%)
Bachelor's degree	82(42.3%)
Graduate degree	2(1.0%)
Ethnic Identity	
Asian	82(42.3%)
White - USA/CAN	56(28.9%)
Other	24(12.4%)
White - European	23(11.9%)
African American or African Canadian	4(2.1%)
Hispanic	3(1.5%)
Pacific Islander	1(.5%)
Gender	
Female	138(71.1%)
Male	53(27.3%)
Other/prefer not to say	2(1%)
Relationship Status	
Single	136(70.1%)
Dating	37(19.1%)
Committed partner	15(7.7%)
Other	3(1.5%)
Married	1(.5%)
Socioeconomic Status	
Lower class	2(1.0%)
Working class	11(5.7%)
Lower middle class	23(11.9%)
Middle class	85(43.8%)
Upper middle class	62(32.0%)
Upper class	10(5.2%)
Know Person with Eating Disorder	
Yes	129(66.5%)
No	64(33.5%)
Personal Experience with Eating Disorder	
Yes	30(15.5%)
No	164(84.5%)



## 2.2 Materials

### 2.2.1 College Application Manipulation

A method for manipulating exposure to a target that varied in weight status and ethnic group was adapted from Calogero et al. (2018). A two-page application was created that purportedly came from an actual female student who applied to attend Western University, referred to as J.C. The first page included basic profile information and the second page included a section of the student's essay that disclosed information diagnostic of an eating disorder. Six versions of the application were created to represent the six experimental conditions (e.g., Black/underweight, Black/average weight, Black/overweight, White/underweight, White/average weight, White/overweight). Weight status and ethnic group were manipulated on the first page and was the only information that varied across the six conditions. Filler information on gender, diploma status, grade point average, birthplace and nationality were constant across conditions. The second page of the application contained a section of the student's essay where she disclosed eating disorder-related attitudes and behaviours, including body hatred, yo-yo dieting, binge eating, weight cycling, and generally poor health. This disclosure was derived from a clinical case study in which a higher weight individual presented with a severe eating disorder (Burgard, 2009). Appendix B includes a sample of the application and personal disclosure presented to participants.

### 2.2.2 Target-focused Outcome Measures

**Detection.** To measure the degree to which participants detected the presence of an eating disorder and the need for help, four items assessed whether they believed the student has an eating disorder (i.e., "This person may have an eating disorder"), needed psychological

support (i.e., “This person needs psychological support”), needed social support (i.e., “This person needs social support”), or needed medical support (i.e., “This person needs medical support”). Items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Prescriptions.** To measure the degree to which participants would recommend pursuit of weight loss and prescribe more of the same dysfunctional eating behaviour, 13 items assessed various prescriptions for eating-related and weight loss-related behaviour (e.g., “This person should lose the 5 pounds she regained recently”, “This person should do whatever it takes to reach her goal weight”, “This person should not drastically restrict her food intake”). These items were developed on the basis of conventional weight loss prescriptions for higher weight individuals (Burgard, 2009). Items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Beliefs.** To measure the range of beliefs held by participants about the student’s disclosed behaviour, five items assessed beliefs about the student’s body image, eating behaviour, and motivations (e.g., “She can’t achieve her weight goals”, “This person is at war with her body and that is the problem”). Items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Role attributions.** To measure the degree to which participants viewed the student positively in different interpersonal contexts, five items assessed how well interpersonal roles described the student (e.g., good friend, good manager). Items were rated on a 5-point Likert scale ranging from 1 (*does not describe J.C.*) to 5 (*describes J.C. extremely well*).

***Trait attributions.*** To measure the degree to which participants viewed the student positively across different character traits, 27 items assessed how well positive and negative traits described the student (e.g., “determined”, “valued”). Items were rated on a 5-point Likert scale ranging from 1 (*does not describe J.C.*) to 5 (*describes J.C. extremely well*).

***Subjectivity.*** To measure the degree to which participants viewed the student as a subject with feelings and capacities, 13 items assessed how well emotional and sensory-related experiences described the student (e.g., “Feels disgust”, “Feels joy”). Items were rated on a 5-point Likert scale ranging from 1 (*does not describe J.C.*) to 5 (*describes J.C. extremely well*).

### 2.2.3 Participant-focused Outcome Measures

***Dieting and exercise intentions.*** Participants responded to eight items about their own eating and exercise related behavioural intentions (e.g., “I am likely to go on a new diet”; “I intend to start counting calories”). Participants rated the degree to which they intended to engage in these behaviours on a 5-point Likert scale ranging from 1 (*extremely unlikely*) to 5 (*extremely likely*).

***Eating disorder-related knowledge.*** Participants responded to five items assessing their self-reported knowledge on eating disorders, dieting, weight loss programs, weight neutral programs and obesity. Participants rated the extent of their knowledge on these topics on a 5-point Likert scale ranging from 1 (*not knowledgeable at all*) to 5 (*extremely knowledgeable*). Mean scores were calculated, with higher scores indicating greater knowledge on these topics.

***Open-ended perceptions.*** Participants were provided with an opportunity to write about any additional impressions and perceptions of the student in a free-response format.

**Demographics.** Finally, participants completed a standard demographic survey. Relationships between demographic variables (e.g., gender, year of education, weight trajectory) and the main study variables were explored.

## 2.2.4 Covariate Measures

**Past perceptions of weight-related teasing.** Participants' history of weight-related teasing was measured with the Perceptions of Teasing Scale (POTS; Thompson, 1995), an 11-item measure that assesses the frequency and personal impact of teasing experiences. Evidence for its reliability and validity have been demonstrated (e.g., Jensen & Steele, 2010; López-Guimerà, 2012; Thompson et al., 1995). For each item, participants indicated how often they were teased (e.g., "People made fun of you because you were heavy") on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*), and how upset they felt by this experience (e.g., "How upset were you by the experience?"), on a 5-point Likert scale ranging from 1 (*not upset*) to 5 (*very upset*). Responses to frequency items were weighted by responses to the effect items and then averaged to create an overall mean score. Higher scores indicate more frequent and distressing past teasing experiences (Cronbach's  $\alpha = .88$ ).

**Anti-fat attitudes.** Anti-fat attitudes were assessed with the Universal Measure of Bias-FAT (UMB-FAT; Latner et al., 2008), a 20-item measure assessing participants' attitudes towards persons who are fat. Some evidence for the reliability and validity of the UMB-FAT has been demonstrated (Latner et al., 2008; Puhl et al., 2013). Participants indicated their agreement with statements about people who are fat (e.g., "Sometimes I think fat people are dishonest") on a 7-point Likert scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Mean scores were

calculated, with higher scores indicating greater endorsement of anti-fat attitudes (Cronbach's  $\alpha = .59$ ).

***Positive impression management.*** Positive impression management was measured with the Balanced Inventory of Desirable Responding Short Form (BIDR-16; Hart et al., 2015), a 16-item measure assessing participants' degree of socially desirable responding. The BIDR-16 is a widely used and valid measure for evaluating individual differences in positive impression management (Hart et al., 2015; Tappin et al., 2017). Participants indicated their agreement with socially desirable statements (e.g., "I always know why I like things, "I never cover up my mistakes") on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Mean scores were calculated, with higher scores indicating greater positive impression management (Cronbach's  $\alpha = .37$ ).

***Internalized weight stigma.*** Participants' self-devaluation on the basis of their weight was measured with the Modified Weight Bias Internalization Scale (WBIS-M; Pearl & Puhl, 2014). The WBIS-M has shown evidence of validity and the modified scale is intended to be applicable to participants across the weight spectrum (Danev, Markey & Brochu, 2018; Mesinger, Tylka & Calamari, 2018; Pearl & Puhl, 2014). Participants indicated their agreement with ten statements (e.g., "Because of my weight, I don't feel like my true self") on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Mean scores were calculated, with higher scores indicating greater internalization of weight stigma (Cronbach's  $\alpha = .93$ ).

***Fat phobia.*** Fat phobic beliefs were assessed with the Goldfarb Fear of Fat Scale (Goldfarb, 1985), a ten-item measure assessing participants' fear of becoming fat. The Goldfarb

Fear of Fat Scale has demonstrated evidence for validity across non-clinical and clinical populations (Abikoye & Adekoya, 2014; Akan & Grilo, 1994; Goldfarb, 1985). Participants rated the extent to which the statements reflected their own beliefs (e.g., “My biggest fear is of becoming fat”, “I feel like all my energy goes into controlling my weight”) on a 4-point Likert scale ranging from 1 (*not true at all*) to 4 (*very true*). Mean scores were calculated, with higher scores indicating greater fear of fat (Cronbach’s  $\alpha = .84$ ).

## 2.3 Procedure

Participants were informed the purpose of the study was to "investigate how disclosure in college application essays is perceived and evaluated by university students" (see Appendix C for the Letter of Information and Consent). The study took place on computers in Western University’s psychology laboratories in Westminster Hall. All questionnaires were delivered on a computer through the online Qualtrics survey platform. The six versions of the college application were available in hard copy form and concealed in separate envelopes placed next to the participant. After reviewing the purpose and procedure for the study, participants read the Letter of Information online and provided their consent. Then participants were presented with a prompt describing the study’s primary task of reading and evaluating a personal disclosure section of a college application essay from a student who applied to Western in the Fall of 2017 (see Appendix D for the full set of instructions from the survey).

The next screen instructed participants to select one of the six envelopes placed next to them, each numbered 1 to 6, based on their random assignment to a condition via Qualtrics. Each envelope contained one of the six copy versions of the application, which varied in terms of the weight status and ethnic group that was indicated for the female student (identified as J.C.) on

the first page of the application. Specifically, J.C. was described as either *Black* or *White* and as *underweight*, *average weight*, or *overweight* according to her body mass index (BMI) under the demographic information section in the application. The second page of the application included the purported section of her essay where she disclosed attitudes and behaviours diagnostic of an eating disorder. In order to bolster the manipulation, the essay page began with a self-description containing the critical information (e.g., “I’m Black and my BMI is underweight”). Participants were given five minutes to read the two pages of the application, after which they were prompted to return the application to its respective envelope and notify the experimenter that they finished reading the application. If the participant did not notify the experimenter after five minutes, the experimenter entered the room to ensure the participant did not begin the survey while still reading the application. All six applications were then removed from the room by the experimenter.

After the experimenter left the room, participants completed the online survey. They first responded to two manipulation check items (i.e., “What ethnicity did the applicant indicate on the application?” and “What BMI did the applicant indicate on the application?”). Next, participants responded to four ostensible items that pertained to the cover story task of evaluating the applicant’s essay (i.e., “The writing was clear and structured.”; “The information was communicated in an engaging way.”; “This person would do well in her classes.”; “This issue is not the sort of thing that should be shared in a college essay.”). Participants rated their agreement on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). After responding to the cover story items, participants proceeded to the main study measures described above, followed by the covariate measures presented in a counterbalanced order (see Appendix E for the study measures). Upon completion of the survey, participants were thoroughly debriefed

by the experimenter and provided with a list of resources to local and national eating disorder support networks and Western University psychological services (see Appendix F for the Debriefing form). The study procedure and survey took approximately 30 minutes to complete. All participants were compensated with 1.0 credit toward their psychology course requirement.

## 2.4 Analytic Strategy

Data were screened for violations of normality and missing values were analyzed. Means, standard deviations, and the range of scores for each dependent variable were calculated. A one-way MANOVA was performed to determine if scores on the covariate measures significantly differed by experimental condition. For the main analyses, a series of one-way MANOVAs was conducted to test the effect of experimental condition on each set of dependent variables. *Box's M* test was used to examine the assumption for the equality of the covariance matrices in each MANOVA. Levene's test was used to examine the assumption of equality of variance across conditions for each variable in the univariate ANOVAs. To protect against Type I error due to multiple ANOVAs being conducted, Bonferroni adjusted alpha levels were employed. Games-Howell post hoc comparison tests were used to determine which conditions differ for any of the variables significantly affected by condition. Games-Howell has been identified as the most robust multiple comparisons procedure for designs with unequal sample sizes across conditions and when assumptions of normality may be violated (Sauder & DeMars, 2019). Finally, participants' open-ended responses were explored to investigate the potential differences in perceptions of disordered eating behaviours between experimental conditions.



## Chapter 3

### 3 Results

#### 3.1 Preliminary Analyses

Preliminary data screening was conducted using SPSS GLM Version 24 (IBM Corporation, 2016) to assess whether the assumptions for MANOVA were violated. Data screening and visualization for the covariate measures indicated that all measures had normal distributions except for scores on the POTS (actual skewness value was 2.02 and actual kurtosis value was 4.01), which suggested that most participants had no prior history of teasing experiences and this variable. However, because scores on this scale reflect a history of personal experiences, a transformation was not considered appropriate for this variable. Actual skewness values for scores on the remaining four covariate measures were  $\leq |.84|$  and kurtosis values were  $\leq |.74|$ , indicating that these values fall within the acceptable skewness range of  $\pm 3$  and acceptable kurtosis range of  $\pm 3$  (George & Mallery, 2010), and mean scores would not pose problems in the main analyses.

Visual examination of the histograms for the dependent variables indicated that all variables had normal distributions except for three of the 84 variables: the target's need for social support (actual skewness value was -1.82 and actual kurtosis value was 4.17); the trait attribution of confidence (actual skewness value was 2.89 and actual kurtosis value was 9.19); the prescription that the target should "avoid going out in public until her weight is restored" (actual skewness value was 4.50 and actual kurtosis value was 28.603). The large kurtosis values indicate the presence of outliers in the data that contribute to a non-normal distribution for these variables. However, large kurtosis values for single-item variables with a large sample size (e.g.,

approximately 200 participants) are not unusual and are generally not considered problematic for tests of mean comparisons in multivariate analyses (DeCarlo, 1997); thus, transformations were not necessary. Actual skewness values for remaining 81 dependent variables were  $\leq |1.82|$  and kurtosis values were  $\leq |2.94|$ , indicating that these values fall within an acceptable range and that mean scores would not pose problems in the main analyses (George & Mallery, 2010).

### 3.1.1 Missing Data Analysis

According to Little's MCAR analysis, data were missing completely at random,  $\chi^2(3133) = 3152.16, p = .40$ , with missing individual data points accounting for .004% of the data. The minimal percentage of missing data indicated the missing individual data points would not pose problems in the main analyses; thus, multiple imputation or removal of data was not necessary. Missing values were handled with listwise deletion.

### 3.1.2 Random Assignment Confirmation

Two analyses were performed to confirm the success of the random assignment. First, a one-way MANOVA was used to test whether participants differed in their eating disorder-related knowledge across the conditions. *Box's M* test of equality of covariance indicated there was no violation of the assumption of homogeneity of variance-covariance,  $p = .26$ , and therefore Wilk's Lambda was used to test for significant differences of the experimental conditions on the set of eating disorder-related knowledge variables. There was no statistically significant effect of condition on the eating disorder-related knowledge variables,  $F(25, 673.89) = 1.15, p = .28$ ; Wilk's Lambda = 0.86, multivariate  $\eta^2 = .03$ , indicating that mean scores on the eating disorder-related knowledge variables would not pose problems in the main analyses. Second, a one-way MANOVA was conducted to test for significant differences in scores on the covariate measures

between experimental conditions. *Box's M* test of equality of covariance indicated there was no violation of the assumption of homogeneity of variance-covariance,  $p = .48$ , and therefore Wilk's Lambda was used to test for significant differences between the experimental conditions on the set of covariate measures. There was no statistically significant effect of condition on the covariate measures,  $F(25, 677.60) = .80, p = .74$ ; Wilk's Lambda = 0.90, multivariate  $\eta^2 = .02$ , indicating that individual differences in anti-fat attitudes, prior weight-related teasing experiences, weight bias internalization, fat phobia and positive impression management were similar across groups. All descriptive statistics for each set of study variables and covariate measures are presented in their respective tables in Appendix G.

### 3.2 Detection Variables

A one-way MANOVA was conducted to test the effect of the experimental condition on the detection variables. *Box's M* test of equality of covariance indicated a violation of the assumption of homogeneity of variance-covariance,  $F(50, 58529.04) = 2.16, p < .001$ ; *Box's M* = 114.06, and therefore Pillai's Trace was used to test for significant differences between the experimental conditions on the set of detection variables. There was a statistically significant effect of condition on the detection variables,  $F(20, 748) = 2.08, p < .004$ ; Pillai's Trace = 0.21, multivariate  $\eta^2 = .05$ .

Levene's test indicated the assumption of homogeneity of variance across conditions for each of the detection variables was met for each variable, all  $p$ 's  $> .12$ . To protect against Type I error due to multiple ANOVAs being conducted, Bonferroni adjusted alpha levels of .0125 per test ( $.05/4$ ) were used. Univariate ANOVAs revealed a significant effect of condition on three of the four variables: has an eating disorder,  $F(5, 187) = 6.27, p < .001$ , partial  $\eta^2 = .14$ ; needs

psychological support,  $F(5, 187) = 3.69, p < .003$ , partial  $\eta^2 = .09$ ; and needs medical support,  $F(5, 187) = 5.35, p < .001$ , partial  $\eta^2 = .13$ . No significant effect of condition was observed for needs social support,  $F(5, 187) = 1.36, p = .242$ , partial  $\eta^2 = .04$ .

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “has an eating disorder” across the conditions. Specifically, the White overweight target was significantly less likely to be described as having an eating disorder compared to the White underweight target ( $p = .005$ ) and the Black underweight target ( $p = .006$ ). The Black overweight target was significantly less likely to be described as having an eating disorder compared to the Black underweight target ( $p = .007$ ) and the White underweight target ( $p = .007$ ). The Black average weight target was also significantly less likely to be described as having an eating disorder compared to the Black underweight target ( $p = .007$ ) and the White underweight target ( $p = .006$ ). No other significant comparisons were observed, with  $p$ 's ranging from .07 to 1.00.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “needs psychological support” across the conditions. Specifically, the White overweight target was significantly less likely to be described as needing psychological support compared to the Black underweight target ( $p = .028$ ), whereas the Black overweight target was not significantly different from any of the other groups, all  $p$ 's  $> .17$ . In addition, the Black average weight target was significantly less likely to be described as needing psychological support compared to the Black underweight target ( $p = .002$ ) and the White underweight target ( $p = .036$ ). No other significant comparisons were observed, with  $p$ 's ranging from .17 to 1.00.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “needs medical support” across the conditions. Specifically, compared to the Black underweight target, the White overweight target ( $p = .008$ ), Black overweight target ( $p = .008$ ), and Black average weight target ( $p < .001$ ) were significantly less likely to be described as needing medical support. In addition, the Black average weight target was significantly less likely to be described as needing psychological support compared to the White underweight target ( $p = .018$ ). No other significant comparisons were observed, with  $p$ 's ranging from .12 to 1.00.

Taken together, these results suggest that participants detected an eating disorder and that there was some degree of support needed, with mean scores across all conditions falling above the midpoint on their respective scales. In other words, participants recognized the presence of an eating disorder regardless of the target's ethnic background or weight status. However, the overweight targets were the least likely to be described as having an eating disorder and this pattern was observed independent of ethnic group. Overall, these findings lend partial support for the hypothesis that eating disorder detection varies as a function of weight status and ethnicity. In particular, an eating disorder was most readily detected in the underweight targets, and especially the Black underweight target. Additionally, detection for the Black average weight target (but not the White average weight target) was most comparable to the overweight targets, and also described as needing the least support of any of the other groups.

### 3.3 Prescription Variables

A one-way MANOVA was conducted to test the effect of the experimental condition on the prescription variables. *Box's M* test of equality of covariance indicated a violation of the assumption of homogeneity of variance-covariance,  $F(455, 48863.98) = 1.27, p < .001$ ; *Box's M*

= 703.94, and therefore Pillai's Trace was used to test for significant differences between the experimental conditions on the set of prescription variables. There was a statistically significant effect of condition on the prescription variables,  $F(65, 900) = 2.28, p < .001$ ; Pillai's Trace = 0.71, multivariate  $\eta^2 = .14$ .

Levene's test indicated the assumption of homogeneity of variance across conditions for each of the prescription variables was met for nine of the variables, and violated for the following four variables: "This person should regain the weight she lost by eating more for awhile" ( $p = .010$ ), "This person should do whatever it takes to reach her goal weight" ( $p = .010$ ), "This person should feel concerned about her eating behaviours" ( $p = .029$ ), and "This person should avoid going out in public until her weight is restored" ( $p = .004$ ). To protect against Type I error due to multiple ANOVAs being conducted, Bonferroni adjusted alpha levels of .0038 per test ( $.05/13$ ) were used. Univariate ANOVAs revealed a significant effect of condition on five of the thirteen variables: "should lose weight regained recently,"  $F(5, 188) = 10.40, p < .001$ , partial  $\eta^2 = .22$ ; "should regain the weight lost by eating more for awhile,"  $F(5, 188) = 12.84, p < .001$ , partial  $\eta^2 = .26$ ; "should learn from repeated cycles of weight loss and gain that the pursuit of a lower weight is not working for her,"  $F(5, 188) = 7.86, p < .001$ , partial  $\eta^2 = .17$ ; "should do whatever it takes to reach her goal weight,"  $F(5, 188) = 4.67, p < .001$ , partial  $\eta^2 = .11$ ; and "should avoid strenuous exercise,"  $F(5, 188) = 3.98, p < .002$ , partial  $\eta^2 = .10$ . No other significant effects of condition were observed on the prescription variables, with  $p$ 's ranging from .02 to .98.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for "should lose weight regained recently" across the conditions. Specifically, the

White overweight target was significantly more likely to be prescribed weight loss compared to the White underweight target ( $p < .001$ ) and the Black underweight target ( $p < .001$ ). The Black overweight target was significantly more likely to be prescribed weight loss compared to the Black underweight target ( $p < .001$ ) and the White underweight target ( $p = .006$ ). The Black average weight target was also significantly more likely to be prescribed weight loss compared to the Black underweight target ( $p = .011$ ). No other significant comparisons were observed, with  $p$ 's ranging from .066 to 1.00.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “should regain the weight lost by eating more for awhile” across the conditions. Specifically, the White overweight target was significantly less likely to be prescribed weight restoration by eating more in light of the recently lost weight compared to the White underweight target ( $p = .001$ ) and the Black underweight target ( $p < .001$ ). The Black overweight target was significantly less likely to be prescribed weight restoration by eating more in light of the recently lost weight compared to the Black underweight target ( $p < .001$ ) and the White underweight target ( $p < .001$ ). The Black average weight target was also significantly less likely to be prescribed weight restoration by eating more in light of the recently lost weight compared to the Black underweight target ( $p < .001$ ) and the White underweight target ( $p = .002$ ). For this variable, the White average weight target was also significantly less likely to be prescribed weight restoration by eating more in light of the recently lost weight compared to the White underweight target ( $p = .027$ ) and the Black underweight target ( $p < .001$ ). No other significant comparisons were observed, with  $p$ 's ranging from .45 to 1.00.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “should learn from repeated cycles of weight loss and gain that the pursuit of a

lower weight is not working for her” across the conditions. Specifically, the White overweight target was significantly less likely to be viewed as someone who should learn weight loss is not working for her compared to the White underweight target only ( $p = .027$ ), whereas the Black overweight target was significantly less likely to be viewed as someone who should learn weight loss is not working for her compared to the Black underweight target ( $p = .002$ ) and the White underweight target ( $p < .001$ ). The Black average weight target and the White average weight target were also significantly less likely to be viewed as someone who should learn weight loss is not working for her compared to the Black underweight target ( $p = .023, .008$ ) and the White underweight target ( $p = .005, .001$ , respectively). No other significant comparisons were observed, with  $p$ 's ranging from .087 to 1.00.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “should do whatever it takes to reach her goal weight” across the conditions. Specifically, the White overweight target was significantly more likely to be viewed as someone who should do whatever it takes to reach her goal weight compared to the White underweight target ( $p = .006$ ) and the Black underweight target ( $p = .007$ ). The Black overweight target was significantly more likely to be viewed as someone who should do whatever it takes to reach her goal weight compared to the Black underweight target ( $p = .026$ ) and the White underweight target ( $p = .024$ ). No other significant comparisons were observed, with  $p$ 's ranging from .40 to 1.00.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “should avoid strenuous exercise” across the conditions. Specifically, the White overweight target and the White average weight target were significantly less likely to be recommended that they avoid strenuous exercise compared to the Black underweight target ( $p =$



.039, .022, respectively). No other significant comparisons were observed, with  $p$ 's ranging from .05 to 1.00.

Taken together, these results suggest that participants prescribed weight loss and some degree of disordered eating behaviours more often to the overweight targets than the underweight targets, especially the Black underweight target. Consistently the White and Black overweight targets differed from the White and Black underweight targets in prescriptions for continued weight loss pursuits, even though participants seemed to detect, on average, the presence of an eating disorder. Prescriptions for stopping weight loss pursuits and restoring lost weight were strongest for the underweight targets, especially the Black underweight target. Interestingly, the Black average weight target was evaluated similarly to the overweight targets. Overall, these findings lend partial support for the hypothesis that prescriptions for the pursuit of weight loss and disordered eating in the context of an eating disorder varies as a function of the weight status and ethnicity of the target. In particular, the Black underweight target was most consistently different from the other groups, including the White underweight target in some cases, with respect to recommending the person needs to stop these pursuits, eat more, exercise less, and realize a lower weight is not a reasonable goal for her.

### 3.4 Belief Variables

A one-way MANOVA was conducted to test the effect of the experimental condition on the belief variables. *Box's M* test of equality of covariance indicated no violation of the assumption of homogeneity of variance-covariance,  $p = .22$ , and therefore Wilk's Lambda was used to test for significant differences of the experimental conditions on the set of belief variables. There was no statistically significant effect of condition on the belief variables,  $F(30,$

935) = 1.33,  $p = .11$ ; Pillai's Trace = 0.20, multivariate  $\eta^2 = .04$ . Therefore, no further analyses were interpreted.

### 3.5 Role Attribution Variables

A one-way MANOVA was conducted to test the effect of the experimental condition on the role attribution variables. *Box's M* test of equality of covariance indicated a violation of the assumption of homogeneity of variance-covariance,  $F(140, 51456.71) = 1.54, p < .001$ ; *Box's M* = 238.57, and therefore Pillai's Trace was used to test for significant differences of experimental conditions on the set of role attribution variables. There was no statistically significant effect of condition on the role attribution variables,  $F(35, 930) = 1.04, p = .41$ ; Pillai's Trace = 0.19, multivariate  $\eta^2 = .04$ . Therefore, no further analyses were interpreted.

### 3.6 Trait Attribution Variables

A one-way MANOVA was conducted to test the effect of the experimental condition on the trait attribution variables. *Box's M* test of equality of covariance indicated a violation of the assumption of homogeneity of variance-covariance,  $F(1512, 43610.79) = 1.13, p < .001$ ; *Box's M* = 2734.21, and therefore Pillai's Trace was used to test for significant differences of the experimental conditions on the set of trait attribution variables. There was a statistically significant effect of condition on the trait attribution variables,  $F(135, 830) = 1.32, p = .01$ ; Pillai's Trace = 0.88, multivariate  $\eta^2 = .18$ .

Levene's test indicated the assumption of homogeneity of variance across conditions for each of the trait attribution variables was met for 25 of the variables, and violated for the following two variables: "determined" ( $p = .027$ ) and "sexually appealing" ( $p = .001$ ). Results for these variables should be interpreted with caution. To protect against Type I error due to

multiple ANOVAs being conducted, Bonferroni adjusted alpha levels of .002 per test (.05/27) were used. Univariate ANOVAs revealed a significant effect of condition on one of the twenty-seven variables: “capable of reasoning,”  $F(5, 188) = 4.02, p = .002, \text{partial } \eta^2 = .10$ . No other significant effects of condition were observed on the trait attribution variables, with  $p$ 's ranging from .01 to .92.

Post hoc comparisons using the Games-Howell test indicated significant differences in mean scores for “capable of reasoning” across the conditions. Specifically, the White overweight target was significantly more likely to be perceived as capable of reasoning compared to the Black underweight target, ( $p < .038$ ). The Black overweight target was significantly more likely to be perceived as capable of reasoning compared to the Black underweight target ( $p = .004$ ). The Black average weight target was also significantly more likely to be perceived as capable of reasoning compared to the Black underweight target ( $p = .007$ ). No other significant comparisons were observed on the trait attribution of “capable of reasoning”, with  $p$ 's ranging from .27 to .99.

Overall, these results suggest that participants perceived the higher weight targets as more capable of reasoning than the other groups. Interestingly, the White underweight target appeared to be viewed similarly to the White and Black overweight targets with respect to the target's capability of reasoning. In particular, the Black underweight target was consistently divergent from the other groups, such that the Black underweight target was perceived as less capable of reasoning than the other conditions. Taken together, the findings indicate that the trait attribution of “capable of reasoning” varied as a function of weight status as well as ethnic group, with the Black underweight target the least likely to be described as capable of reasoning.

### 3.7 Subjectivity Variables

A one-way MANOVA was conducted to test the effect of the experimental condition on the subjectivity variables. *Box's M* test of equality of covariance indicated a violation of the assumption of homogeneity of variance-covariance,  $F(455, 48863.98) = 1.13, p = .029$ ; *Box's M* = 625.28, and therefore Pillai's Trace was used to test for significant differences between the experimental conditions on the set of subjectivity variables. There was no statistically significant effect of condition on the subjectivity variables,  $F(65, 900) = .74, p = .94$ ; Pillai's Trace = 0.25, multivariate  $\eta^2 = .05$ . Therefore, no further analyses were interpreted.

### 3.8 Dieting and Exercise Intentions

A one-way MANOVA was conducted to test the effect of the experimental condition on the dieting and exercise intention variables of the participants. *Box's M* test of equality of covariance indicated a violation of the assumption of homogeneity of variance-covariance,  $F(4180, 49767.28) = 1.28, p = .029$ ; *Box's M* = 259.45, and therefore Pillai's Trace was used to test for significant differences between the experimental conditions on the set of dieting and exercise intention variables. There was no statistically significant effect of condition on the dieting and exercise intention variables,  $F(40, 920) = .88, p = .69$ ; Pillai's Trace = 0.18, multivariate  $\eta^2 = .04$ . Therefore, no further analyses were interpreted.

### 3.9 Open-ended Responses

At the end of the online survey, participants were given the opportunity to provide any additional comments about their perceptions of the target. Noteworthy patterns were observed for each experimental condition and therefore are reported below.

When J.C. was described as White and overweight, participants reinforced their prescriptions for the target to continue her pursuit of weight loss. For example:

*“She lacks confidence, and not determined in what she really wants to do. She also lacks of self-discipline. She should insist in her goal without distracted by other things.”* (Participant #11)

Other participants noted that J.C.’s struggle was preventing her from living a full life, and appeared to believe that weight loss is the solution. For example:

*“The recommendations I would give J.C. would be to continue to work hard at losing weight and if her weight is holding her back from some of her goals then she should put all of her effort into losing weight.”* (Participant #10)

Responses were similar when the target was described as Black and overweight. Again, participants encouraged J.C. to continue her pursuit of weight loss. For example:

*“Bring a friend to work out with because it’ll make the experience much more enjoyable or you can try looking for a personal trainer. Exercise is just as important to diet control.”*  
(Participant #105)

*“It seems like she’s going with the widely accepted method to lose weight instead of doing research and seeing what actually works and what doesn’t. Restricting carbs and fats and keeping calories that low is not sustainable, she even says so herself - she finds herself binging. She should not put off her dreams and she should learn to love herself, accepting how she is, and losing weight not for her image, but for her own happiness.”* (Participant #100)

When J.C. was described as White and average weight, some participants expressed identification with her struggle. For example:

*“After reading about J.C.s story, I felt the same way as her. I feel like your body image is very important in having attributes like confidence, courage, and sex appeal.”* (Participant # 39)

Other participants reiterated the prescriptions for J.C. to continue her pursuit of weight loss despite her perceived “average” weight status. For example:

*“Keto diet has been proven to work for many people. J.C., is restricting her fat and carb intake and that is mainly the reason her weight is not dropping and that she binge eats. J.C. should enjoy a variety of low carb vegetables cooked in fatty oils. This would suffice her hunger and keep her going with exercise.”* (Participant #40)

This pattern of responses was also observed when J.C. was described as Black and average weight. Additionally, some participants appeared to believe J.C. was personally responsible for her unsuccessful weight loss attempts. For example:

*“J.C. demonstrated her insecurities in the essay. Her determination towards losing weight is fragile and she gives up easily. She is self-loathing (although not extreme) and not confident.”*  
(Participant #135)

Other participants echoed this sentiment:

*“There are several suggestions that I would like to make to her: 1. Make a schedule for your plan 2. just be yourself, do not live in other's perspective 3. trying to make some friends who have the same "journey" like yourself.”* (Participant #134)

When J.C. was described as White and underweight, many participants remarked on the evident presence of an eating disorder. For example:

*“J.C. probably has an eating disorder. It is hard to judge personality traits based on what she wrote, but she is clearly in distress and her focus on her diet is taking over her life”.*

(Participant #91)

Other participants proposed that J.C. would benefit from professional support. For example:

*“J.C. has goals and aspirations but she is letting her fear and shame take over her life if that is all that she is focusing on, sadly. I recommend she talk to a nutritionist because her behaviours as described seems unhealthy and could seriously affect her life in the long run, if it is not stopped now.”* (Participant #73).

When J.C. was described as Black and underweight, participants also detected the presence of an eating disorder. For example:

*“The recommendations I would suggest is go to someone and receive help for her eating disorder and body dysmorphia. After that, find something that you can be passionate about that really describes who you are.”* (Participant #183)

Some participants did not directly address the presence of an eating disorder, but still found her behaviours and self-perceptions to be worrisome. For example:

*“J.C. appears to be a ordinary girl who has crippling self-esteem and body image... Her meticulous (albeit misguided) attempts to achieve her ideal body image indicates that she is a very determined and intelligent young woman, and that she will achieve what she wants in her life. I have no doubt about her capabilities and potential. However, it is her unawareness of her negative body image fueling a vicious cycle of putdowns and self-depreciation that I find troubling...”* (Participant #164)

Overall, empathetic responses did not appear to differ across the targets and no overt denigration of any of the targets was observed. Indeed, participants expressed concern for all of the targets and appeared to value J.C.’s wellbeing and happiness regardless of her weight status or ethnic group membership. However, there were observable differences in participants’ perceptions of the target’s problem between experimental conditions. For the overweight targets, participants appeared to locate J.C.’s suffering in the size of her body and subsequently believed her distress could be alleviated through the achievement of a thinner figure. In contrast, for the underweight targets, participants appeared to locate J.C.’s suffering in her unhealthy preoccupation with food and weight and subsequently believed her distress could be alleviated through changing her self-perceptions and behaviours, rather than her body size. It is important to note that these findings are preliminary and should be interpreted with caution. Participants’ responses will undergo thematic analysis post submission of this thesis. The data will be coded for valence, prescriptions, and evaluations and patterns across conditions will be examined.



## Chapter 4

### 4 Discussion

The purpose of this study was to examine how the intersection of weight status and ethnic group influences lay perceptions of eating disorder symptomology in a laboratory context. Specifically, an experimental design tested how the intersection of weight status and ethnic group affected the detection of eating disorder symptomology, prescriptions and recommendations for behaviours, and social evaluations related to an ostensible female student. Overall, findings from this study provided partial support for the hypotheses. As anticipated, eating disorder detection varied in meaningful ways as a function of weight status and ethnic group, offering some evidence for the role of eating disorder stereotypes, as well as stereotypes associated with fatness and Women of Colour, in the (under) detection of disordered eating.

One consistent finding was that compared to the average weight and overweight targets, the underweight targets were perceived as more likely to have an eating disorder. These findings corroborate previous research that has shown slower identification and diagnosis of an eating disorder in higher weight individuals compared to lower weight individuals (Lebow, Sim & Kransdorf, 2015). Likewise, the underweight targets were perceived as more likely to need psychological and medical support compared to the overweight targets. These findings were observed across the ethnic groups and suggest that under-detection could in part explain the disproportionately lower prevalence of higher weight individuals in eating disorder intervention and treatment environments. Previous research indicates that higher weight individuals are in a position of increased risk for *developing* eating disorder symptomology (Doyle et al., 2007), and these findings indicate that higher weight individuals may also be in a position of increased risk

for *under-detection* of eating disorder symptomology, thereby trapping this marginalized group in a vicious cycle of harmful behaviours.

#### 4.1 Prescribing Vs. Pathologizing Weight Loss

Notably, the severity of the disclosed eating disorder symptomology was held constant across experimental conditions, and participants identified the presence of an eating disorder in all targets, with mean scores well above the midpoint across all conditions. Yet, we found that Black and White *overweight* targets were prescribed eating and exercise-related behaviours consistent with *continuing* their pursuit of weight loss, whereas Black and White *underweight* targets were prescribed eating and exercise-related behaviours consistent with *discontinuing* their pursuit of weight loss. In particular, participants were more likely to agree that the overweight targets should lose the weight they regained recently, to do whatever it takes to reach their goal weight, and less likely to give up on the pursuit of a lower weight. Conversely, participants agreed that the Black and White underweight targets should regain the weight lost by eating more for awhile and to avoid strenuous exercise. There was some evidence that the Black overweight target was most likely to be prescribed continued weight loss, compared to Black and White underweight targets. There was also evidence that the Black underweight target was most likely to be perceived as in distress and needing intervention, compared to the other groups. Overall, this pattern of findings suggests that disordered eating behaviours used by higher weight individuals may be encouraged despite overt signs of psychological and physical impairment. Indeed, participants detected the potential presence of an eating disorder across experimental conditions. Thus, even in the face of a life-threatening eating disorder, participants prescribed continued maladaptive behaviours to the overweight targets.

## 4.2 A Weight Stigma Perspective of ED (Under) Detection

Social stigma has been recognized as a critical social determinant of population health (Hatzenbuehler et al., 2013). Weight stigma has been consistently linked to health-compromising behaviours (Mensinger & Meadows, 2017) and health-care avoidance (Mensinger, Tylka, & Calamari, 2018). The present study adds to this body of literature by demonstrating that social stereotypes of body size rooted in weight stigma size may contribute to disparities in perceived severity of eating disorder behaviours and recommendations for treatment. One striking finding was the large difference between the overweight targets and the underweight targets on the prescription variables, whereas differences in trait and social perceptions of the targets did not differ. These patterns suggest that higher weight targets were not overtly derogated, but rather weight stigma was primarily affecting perceptions related to the eating and exercise-related behaviours of the target. It is concerning that, despite clear indicators of distress, eating disorder symptomology among targets with a higher body weight was less likely to be discouraged by participants than eating disorder symptoms disclosed by targets with a lower body weight. These patterns are consistent, however, with scientific and societal conceptions of larger bodies as “sick” and “obese”, and this pathologizing of higher weight persons supports prescribing weight loss at any cost for the sake of personal and public health (see Bacon & Aphramor, 2011; Calogero, Tylka, & Mensinger, 2016, Calogero et al., 2018, for reviews).

Through this lens, then, disordered eating symptomology among higher weight women may be perceived positively as dedication to self and societal improvement. Moreover, it is relevant to consider here that stereotypes serve to legitimize and rationalize social group membership (and thus access to power and resources tied to those groups; Pratto et al., 2008). When members violate the stereotypes for their groups, they risk being perceived as illegitimate

and subsequently stigmatized (Zelditch, 2001). The stereotypes associated with higher weight individuals (e.g., lazy, lacking control, weak; Puhl & Peterson, 2014) violate the stereotypes associated with people with eating disorders (e.g., determination, will power; Sherman & Thompson, 1999), and thus higher weight individuals may not be viewed as legitimately having an eating disorder. Consequently, higher weight individuals with eating disorders may be afflicted by delayed identification, restricted support, and misguided advice to continue their pursuit of weight loss. Thus, this research highlights the need for addressing the saturation of weight stigmatizing stereotypes in the context of recognizing eating disorders. Given that many individuals develop eating disorders while classified as “overweight” or “obese” by medical BMI standards (Crisp, Hsu, Harding, & Hartshorn, 1980; Lipson & Sonnevill, 2017), this research lends further support to the idea that psychological and physical markers of eating disorders, and not weight status or BMI, should be used to identify at risk individuals.

### 4.3 Differential Weight of Marginalized Social Categories

Inconsistent with hypotheses, eating disorder detection varied only marginally as a function of ethnic group. Broadly, participants reported similar concern for the White and Black underweight targets’ behaviours and prescribed similar behaviours for the White and Black targets across weight status conditions. This pattern of findings counters previous research documenting disparities in eating disorder detection between White and non-White individuals (Gordon et al., 2006), and provides additional support for the view of eating disorders as problems primarily conceptualized in terms of weight status. However, one consideration to take into account when interpreting the study’s results is the demographic profile of the sample. The majority of participants in this study identified as Asian (42%) and Caucasian (40%), with only 2% of participants identifying as African-Canadian or Black. Thus, it is possible that participants

had not been exposed to the specific stereotypes about Women of Colour and eating disorders that may influence under-detection. Given that the negative stereotypes rooted in weight stigma are more wide-spread (e.g., that higher weight individuals should be dieting; Calogero, Tylka, & Mensinger, 2016; Puhl & Brownell, 2001), the target's weight status may have been more relevant to participants' perceptions of eating disorder symptomology than the target's ethnic identity. Therefore, it would be beneficial to replicate this experiment with a target that is representative of stereotypes that are salient to the study's sample (e.g., for this sample, an Asian target may have been more salient to participants).

An alternative explanation for the minimal differences observed in eating disorder detection and prescriptions between the ethnic groups is that the "body positive" stereotype associated with Women of Colour may have heightened the detection of the body image distress disclosed by the Black targets. Some research has indicated that Black women report fewer dieting behaviours and greater body satisfaction than White women (Akan & Grilo, 1995; Gordon, Perez & Joiner, 2006; Perez & Joiner, 2003; Perez et al., 2002), and findings from these studies are highly publicized (Riley, 2002). Media portrayals of Black women communicate admiration for their acceptance and appreciation of their larger body sizes (O'Hara & Smith, 2007). Thus, the disclosure section of the college application essay from a Black target may have run counter to the stereotype for Black women and this highlighted the targets' suffering instead of dismissing it. This explanation is consistent with the present findings that indicated pronounced concern for the Black underweight target compared to the other experimental conditions.

## 4.4 Stigmatization of EDs

In general, participants seemed to perceive targets in all experimental conditions as competent in performing key social roles and did not appear to deny a particular target's subjectivity more than the other experimental conditions. However, we did find that participants perceived the White and Black overweight targets as more capable of reasoning than the underweight targets. It is possible that this pattern of results reflects the stigma that is associated with eating disorders itself. Indeed, experimental research has demonstrated that individuals with eating disorders are stigmatized to a greater extent than individuals with other physical and mental disorders (O'Connor, McNamara, O'Hara, & McNicholas, 2016). For example, in an experimental study, Stewart, Keel and Schiavao (2006) presented four vignettes of individuals with various conditions (i.e., good health, asthma, schizophrenia and AN) to a community sample and found that participants perceived the target with AN as more attention-seeking and personally responsible for their illness than the other targets. Studies employing similar vignette designs have shown that individuals with eating disorders are attributed traits that characterize hindered capability of reasoning, such as hostility and reproach, compared to individuals with other illnesses (e.g., diabetes, depression; Gowers & Shore, 1999; Mond, Robertson-Smith & Vetere, 2006; Roehrig & McLean, 2010; Stewart, Schiavo, Herzog & Franko, 2008). Considering that participants in this study perceived the Black and White underweight targets as more likely to have an eating disorder than the Black and White overweight targets, eating disorder stigma may have affected how participants perceived the underweight targets with respect to the capability of reasoning.

## 4.5 Practical Implications

Weight stigmatizing attitudes are widespread among medical professionals who treat eating disorders (Carr & Freidman, 2005; Puhl et al., 2013). Even when higher weight individuals with eating disorders do utilize health care services, symptoms are not identified despite frequent medical check-ups and evident markers of malnutrition (Sim, Lebow, & Billings, 2013). The Weight Normative Approach (Tylka et al., 2014), which maintains that BMI is the primary determinant of health, trains medical professionals to prescribe weight loss to higher weight patients for a range of health conditions, including Binge Eating Disorder. These prescriptions persist despite increasing evidence that a focus on weight is not conducive to better health (for a review, see Tylka et al., 2014). Thus, eating disorder symptoms among higher weight individuals may be perceived by medical professionals as simply compliance to weight loss advice rather than as pathological behaviours.

Therefore, community awareness is essential for the detection of eating disorder symptomology among marginalized groups. The findings from this study demonstrate that it is imperative to increase education about the diverse groups of people who are affected by eating disorders, particularly individuals in higher weight bodies, among lay populations. Many individuals with eating disorders are ashamed to admit they are struggling (Becker et al., 2003), and this shame may be amplified for higher weight individuals because they do not match the stereotypical physical presentation of an eating disorder. Thus, peers can play an important role in eating disorder intervention (Price, Desmond, Price & Mossing, 1990). Delayed detection of eating disorder symptoms contributes to a longer duration of illness and a decreased likelihood of full recovery (Herzog, Nussbaum, & Marmor, 1996; Sala et al., 2013). Moreover, eating disorders carry a substantial risk of premature death (Herzog et al., 2000), and the length of

illness is positively associated with the risk of fatal outcome (Theander, 1992). As such, higher weight individuals with eating disorders may be in a position of increased vulnerability for premature death due to under-detection. With the goal of early intervention, it is imperative that behavioural symptoms of eating disorders are widely known so that individuals are referred to treatment even when their body size does not align with the stereotypical physical representation of an eating disorder.

Awareness campaigns and educational programs should take additional measures to dispel weight-centric stereotypes about eating disorders to facilitate early detection of symptoms. The findings from this study suggest that the curriculum for these programs would benefit from consultation with organizations that advocate for higher weight individuals with intersectional identities, such as the Association for Size Diversity and Health, the Council for Size and Weight Discrimination, The Body Positive, and Body Confidence Canada. Major public health stakeholders and eating disorder nonprofit associations should prioritize the collaborative development of these programs so that they accurately represent and benefit the lived experiences of marginalized individuals with eating disorders (Hart, Granillo, Jorm & Paxton, 2011; Mensinger et al., 2018). By providing unbiased education about eating disorders to lay populations, symptomology might be more readily identified and addressed to optimize positive health outcomes for marginalized individuals with eating disorders.

## 4.6 Limitations and Future Directions

As previously mentioned, a major limitation of this study is the demographic profile of the sample. A thorough understanding of the influence of multiple marginalized group membership on eating disorder detection relied on participants' knowledge of stereotypes surrounding Women of Colour and eating disorders. Thus, the current sample may not have



allowed for a comprehensive test of the effects of mutual influence of weight status and ethnic group on eating disorder detection. Further, the limited variability in this sample did not allow for tests of moderating effects or ethnic identity differences in the covariate measures. It is also important to recognize that undergraduate psychology students may be more knowledgeable about eating disorders than the general lay population. Future research should expand this study to a range of diverse participant samples to test the reliability and generalizability of the present findings.

The target in this study represented only two of many possible social groups that might be relevant in the context of eating disorder detection. For example, individuals who do not identify as female, individuals who identify on the LGBTQA+ spectrum, individuals who identify as Asian, First Nation, Native-American, Hispanic or Middle-eastern, and individuals who practice Judaism or are Muslim also do not match the stereotypical representation of an eating disorder. Additionally, many of these individuals are linked to stereotypical characteristics that may increase vulnerability to under-detection by peers (e.g., the stereotype that Jewish women love to eat) and belong to multiple marginalized groups (e.g., bisexual Hispanic women). Various expressions of intersectionality create unique disadvantages, and we cannot state that the results of the study are generalizable to other marginalized individuals. Future research should examine the influence of other multiple marginalized identities on eating disorder recognition to widen our understanding of groups at risk for under-detection.

The examination of hypotheses grounded in intersectionality theory with psychological quantitative techniques is not without methodological challenges. Within a multivariate analysis of variance framework, we can begin to conceptualize how one variable (e.g., weight status) influences and is influenced by another variable (e.g., ethnic group). However, this is an additive

model of intersectional identity, which operates on the assumption that weight status and ethnic identity are independent of one another. While we can examine interaction effects, this method does not fully encompass one variable's dependence on another (Shields, 2008). Although we attempted to reinforce the intertwined influence of social categories by presenting the weight status and ethnic group information as an intersecting identity for each condition (e.g., "I'm a Black woman and my BMI is overweight), we cannot definitively conclude that this statement communicated the interdependence of intersecting marginalized identities to participants.

Although there is no one-size fits all approach for studying intersectionality theory, one solution to this problem is to follow this quantitative study with qualitative research among higher weight Women of Colour with eating disorders. In fact, the theoretical basis for intersectionality theory grew from the study of lived experience (Crenshaw, 1994; Shields, 2008) and qualitative methods have a greater allowance for the complexity of lived experience (Warner, 2008). Qualitative research bypasses quantitative limitations by openly investigating the relationships between categories and the processes and consequences that are relevant to these relationships (Shields, 2008). Using this strategy, researchers can explore emergent themes and phenomenon without the confinement of experimental control and a priori hypotheses testing. For example, although the personal disclosure in this study described well-known symptoms of severe eating pathology, the intricacies of disordered eating among higher weight Women of Colour may diverge from this pattern of behaviours. However, there is a dearth of qualitative psychological studies examining the manifestation of disordered eating among higher weight Women of Colour and their lived experience of eating disorder stereotypes. Thus, qualitative research is an important foundation for quantitative methodology and is necessary for

a comprehensive understanding of eating disorder detection among individuals with multiple marginalized identities.

## 4.7 Conclusion

Eating disorders do not discriminate and exist across all weight status and ethnic group categories. However, eating disorders have been commonly and scientifically portrayed as illnesses that are exclusive to thin, White women. Taken together, the findings from this study advance the literature on perceptions of eating disorders by lending critical insight into the disempowerment and stigmatization of marginalized individuals with eating disorders. This research also contributes preliminary evidence for the role of stereotypes in eating disorder detection and provides a framework for understanding why eating disorders among marginalized individuals are under-represented and under-treated, especially higher weight women. Early intervention for eating disorders is vital for long-term positive health outcomes, but stereotypes about eating disorders, higher weight individuals, and Women of Colour may impede detection of disordered eating among women in marginalized populations. Acknowledgement, understanding, and treatment are the imperative first steps towards lasting recovery. Insofar as the stereotypes about the physical presentation of eating disorders are not confronted, women with eating disorders who are situated at the margins of society will remain invalidated, invisible, and without the life-saving identification they need and deserve.

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APPENDICES

Appendix A: Study Approval from Western Non-Medical Research Ethics Board



**Date:** 31 July 2018  
**To:** Rachel Calogero  
**Project ID:** 111377  
**Study Title:** Investigation of Student Disclosure in College Application Essays  
**Application Type:** NMREB Initial Application  
**Review Type:** Delegated  
**Full Board Reporting Date:** September 7 2018  
**Date Approval Issued:** 31/Jul/2018  
**REB Approval Expiry Date:** 31/Jul/2019

Dear Rachel Calogero

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

**Documents Approved:**

Document Name	Document Type	Document Date	Document Version
ED -Stereotypes-detection-Study Measures_July12	Online Survey	12/Jul/2018	1
ED-Stereotypes -detection- advert	Recruitment Materials	19/Jul/2018	2
ED-Stereotypes-Detection-collegeapp	Online Survey	07/Jul/2018	1
ED-stereotypes-detection-LOI	Implied Consent/Assent	19/Jul/2018	2
ED-Stereotypes-Study 2-debrief	Debriefing document	12/Jul/2018	1

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

*Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).*



Appendix B: Sample Application and Personal Disclosure



ID Number: (For office use only)



Undergraduate Application

Applicant Information

Full Name: C [redacted] J [redacted] L [redacted] Date Of Birth: 7/4/2000
Last First M.I.

Address: [redacted]
Street Address Apartment/Unit #
[redacted] ON [redacted]
City Province ZIP Code

Phone: [redacted] Email: [redacted]

Applying for:
[X] Fall 2018 [ ] Winter 2019 Possible Major: Information and Media Studies

Place of birth: [redacted]

Are you a citizen of Canada? YES [X] NO [ ] Are you applying for financial aid? YES [ ] NO [X]

Table with 3 columns: Question, YES/NO checkboxes, and Explanation/Team name.

Education

High School: [redacted] Address: [redacted]

From: 9/2013 To: 5/2017 Did you graduate? YES [X] NO [ ] Diploma: Ontario Secondary School Diploma

Total Average GPA: 3.65



Race/Ethnicity: Black Gender: Female Height: 5'5" Weight: 195 lbs BMI: Overweight

Do you consider yourself an Aboriginal person? YES  NO

If yes, please specify: \_\_\_\_\_

*I certify that my answers are true and complete to the best of my knowledge.*

Signature: [Redacted]

11/2017

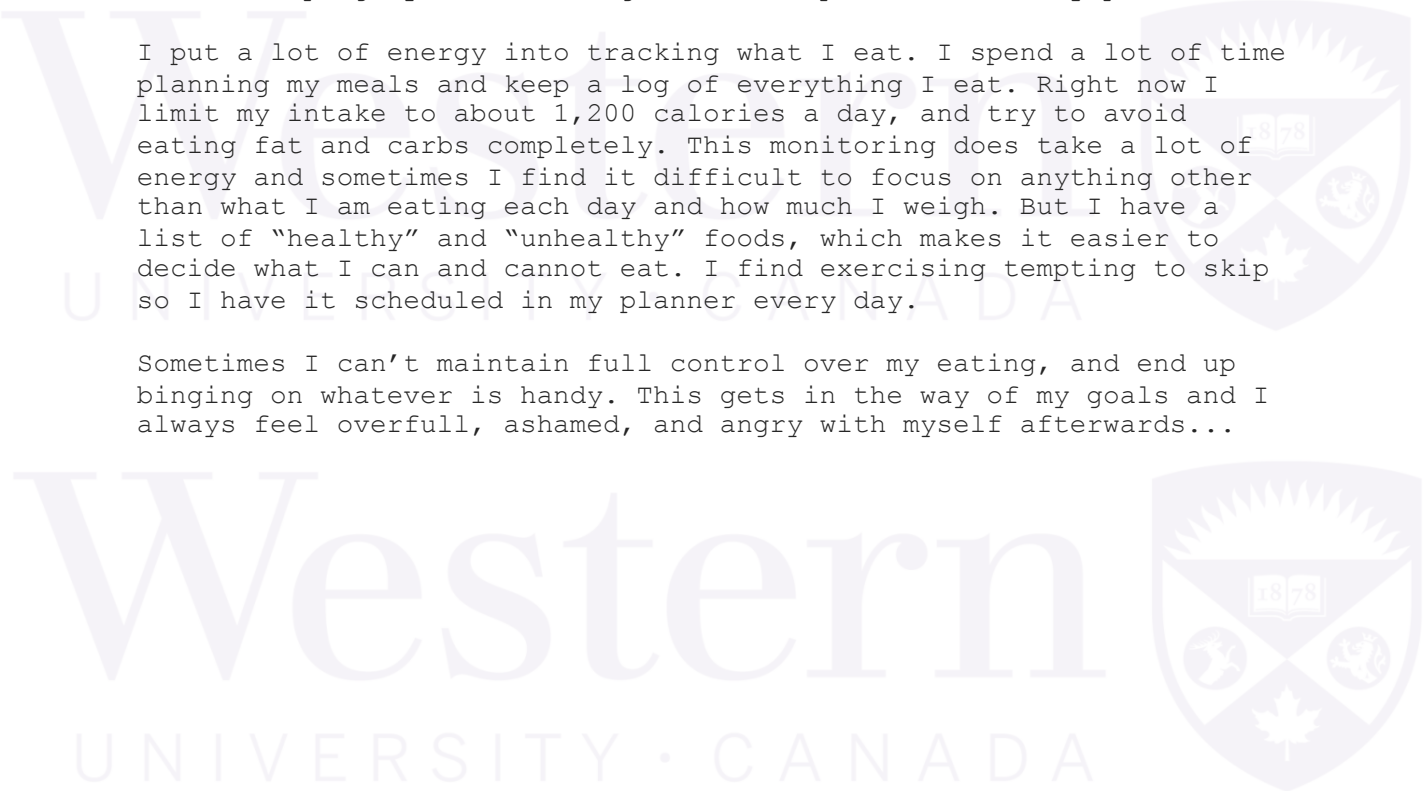
DISCLOSURE SECTION OF APPLICANT'S ESSAY

...I have concerns about my weight and loathe my thighs. I'm Black and my BMI is overweight, but I feel I can't get into my marketing career until I can lose weight. If I could just lose weight my life would be perfect. Until I do, I will definitely not be seen in a bathing suit, or apply for the media internship position (which I really want to do), and I feel like I need to avoid going out until I meet my fitness and diet goals.

I have lost weight in the last five months, but in the last two weeks I gained five pounds and I feel guilty for getting off track. I feel really good when I lose weight, but when I gain weight, I start to question if I will achieve my goals. I have lost and gained weight so many times, from around the age of 13 I think. But no matter what weight I achieve I still see myself as the "chubby" kid and I can still hear the names my classmates used to call me. It's frustrating, but I'm hoping my recent changes will help me stick to my plan.

I put a lot of energy into tracking what I eat. I spend a lot of time planning my meals and keep a log of everything I eat. Right now I limit my intake to about 1,200 calories a day, and try to avoid eating fat and carbs completely. This monitoring does take a lot of energy and sometimes I find it difficult to focus on anything other than what I am eating each day and how much I weigh. But I have a list of "healthy" and "unhealthy" foods, which makes it easier to decide what I can and cannot eat. I find exercising tempting to skip so I have it scheduled in my planner every day.

Sometimes I can't maintain full control over my eating, and end up binging on whatever is handy. This gets in the way of my goals and I always feel overfull, ashamed, and angry with myself afterwards...



## Appendix C: Letter of Information and Consent

**LETTER OF INFORMATION**

**Project Title:** Investigation of Student Disclosure in College Application Essays

**Researchers:** Maggie Head, MSc. Candidate, Rachel Calogero, PhD., Department of Psychology, Western University.

**1. Invitation to Participate**

You are invited to participate in a research study. The study is conducted under the direction of Rachel Calogero, Ph.D. and Maggie Head, MSc. Candidate, from the Department of Psychology at Western University.

**2. Purpose of this Letter**

The purpose of this letter is to provide you with information in order to allow you to make an informed decision regarding participation in this research.

**3. Purpose of this Study**

We are interested in determining how disclosure in college entrance essays influences perceptions and the likelihood of acceptance by University Admissions staff and current students. This is part of the Academics Canada 2020 University Developmental Review.

**4. Inclusion Criteria**

In order to participate, you must be a student at Western University.

**5. Exclusion Criteria**

Participants will be excluded if they do not meet the criteria listed above.

## **6. Study Procedures**

This study has two parts. First, each participant will be asked to read an extract from an actual college application essay. For confidentiality reasons, the student's identity will remain unknown to the participant. Second, each participant will complete questionnaires relating to the essay and the student. These questions include topics of academics, personality traits and general involvement in school. Each participant will also answer health behaviours questions, measures of attitudes, self-perceptions, and a standard demographic sheet with questions about their undergraduate degree. The study will be entirely online using the Qualtrics platform and should take approximately 30 minutes to complete.

## **7. Possible Risks and Harms**

None of the questions or tasks expose participants to subject matter that is not readily discussed or available in newspapers, magazines, radio, television, surfing the web, or online social media networks. Many questionnaires used in this study have been used for years at universities all over the world with no reports of adverse effects on participants.

Some people may feel uncomfortable answering sensitive questions about their personal habits and themselves. If you experience any discomfort or distress from a question or do not wish to answer, please remember that you may leave that question blank without penalty.

You are also free to withdraw from the study at any time and for any reason, without any consequences.

Participation and/or withdrawal from this study is not related to the course credit. All data will remain completely confidential. Your decision to participate in the study, as well as your responses, will not be released to anyone. Your information will never be personally identified. Your status as an undergraduate student will not be affected by your participation.

## **8. Possible Benefits**

The knowledge gained from this study may help to better understand potential differences in perceptions of future students between current undergraduate students and University

Admissions staff. Your responses will be included as part of the evaluation of Western University's application process.

#### **9. Compensation**

For this study, you will receive 1 research credit for your involvement.

#### **10. Voluntary Participation**

Your participation in this study is voluntary, and you may decide not to participate at any time. If you decide to withdraw from participating, the data you have already completed will be retained and your course credit will not be affected.

If you wish to withdraw your data for any reason, you may do so. However, because the data is coded based on SONA ID numbers, your SONA ID number will need to be provided by you in order to exclude your data from our records. During the study you are free to omit any question you wish not to answer, without penalty. You do not waive any legal rights by consenting to this study. Withdrawing from this study will not have any impact on your academic standing.

If you wish to withdraw your data, please contact the Principal Investigator named below.

#### **11. Confidentiality**

All of your responses will remain confidential. All responses are coded with each participants' SONA ID number. Your responses will be used for research purposes only. In reports of this study, only aggregated group data will be presented. All electronic documents will be kept on a secure university network. The data will be kept for a period of 7 years in accordance with Western University policy. Representatives of The University of Western Ontario Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research. **Your participation and answers are anonymous and confidential and will not be released to anyone in your academic class.**

#### **12. Contacts for Further Information**

Participants are welcome to ask questions about the study at the end of the session. If you would like to receive any further information regarding this research project or your participation in the study, you may contact the following people:

Maggie Head

MSc. Candidate

Dr. Rachel Calogero

Principal Investigator

If you have any questions about the conduct of the study, or your rights as a research participant, you may contact the Office of Human Research Ethics at Western University.

### **13. Publication**

If the results of the study are published, only aggregated data will be used that does not identify you personally. If you would like to receive a copy of any potential study results, please contact Maggie Head.

**Please print a copy of this letter for your records.**

I have read the Letter of Information, have had the nature of the study explained to me, and I agree to participate. All questions have been answered to my satisfaction.

You do not waive any legal right by signing this consent form.

I have read the letter of information and have any questions answered to my satisfaction. I understand that by clicking 'I agree' below, I am indicating my consent to participate.

## Appendix D: Full Instructions for Online Survey

### **INTRODUCTIONARY INSTRUCTIONS**

Students disclose information about themselves on a variety of topics. Since we are not interested in any one particular topic, but rather the act of disclosure itself, the essays included in this study represent a range of topics.

Your participation only requires you to read and evaluate one essay, and therefore you will be randomly assigned to just one of the six possible applicants who disclosed personal information. These disclosures can cover any number of different topics.

### **APPLICATION INSTRUCTIONS**

Your assigned application will be indicated on the next page.

Please click on the arrow on the bottom right of the page when you are ready to continue.

### **APPLICATION RETURN INSTRUCTIONS**

You will now begin the next part of the study.

Please return the application to the envelope.

Please notify the experimenter that you are finished reading the application.

Once you have given the envelope to the experimenter, please click the arrow to proceed.

### **SURVEY COMPLETION INSTRUCTIONS**

In this next section you will complete a series of questions on your general impressions and perceptions of the applicant.

Please answer all questions truthfully.

We are interested in your personal opinions and responses, there are no right or wrong answers.

## Appendix E: Main Study and Covariate Measures

**STUDY MEASURES****Manipulation Check Questions**

1. What ethnicity did J.C. indicate on her application?
2. What BMI did J.C. indicate on her application?

**Cover Story Questions**

Please rate the extent to which you agree or disagree with the statements below using the scale provided.

5-point rating scale from 1 (strongly disagree) to 5 (strongly agree)

1. The writing was clear and structured.
2. The information was communicated in an engaging way.
3. J.C. would do well in their classes.
4. This issue is not the sort of thing that should be disclosed in a college essay.



**Perceptions of the Target (J.C.) Questions****Eating Disorder Detection**

Please consider your impression of the particular issue being disclosed by J.C. and rate the extent to which you agree or disagree with the statements below using the scale provided.

7-point rating scale from 1 (strongly disagree) to 7 (strongly agree)

1. J.C. may have an eating disorder.
2. J.C. needs psychological support.
3. J.C. needs social support.
4. J.C. needs medical support.

### Prescriptions

Often times, readers of such personal disclosures feel obligated to respond to the student who wrote it, and offer some advice or make some recommendations based on their own judgments of the issue.

In this next section of the evaluation, consider the issue revealed by J.C. and what you would recommend for J.C. to do based on what she has disclosed, as well as your more general impressions of her.

Please rate the extent to which you agree or disagree with the statements below, using the scale provided.

7-point rating scale from 1 (strongly disagree) to 7 (strongly agree)

1. J.C. should get control of her eating so she can meet her goal of 1200 calories a day.
2. J.C. should lose the weight she has regained recently.
3. J.C. should go ahead and do the things she is postponing until her body is more “acceptable.”
4. J.C. should keep recording everything she is eating.
5. J.C. should regain the weight she lost by eating more for awhile.
6. J.C. should learn from repeated cycles of weight loss and gain that the pursuit of a lower weight is not working for her.
7. J.C. should do whatever it takes to reach her goal weight.
8. J.C. should eat the way she finds it possible to eat in the long run, and let her weight be whatever it turns out to be.
9. J.C. should not drastically restrict her food intake.
10. J.C. should continue to exercise even though it makes her miserable.
11. J.C. should avoid strenuous exercise.
12. J.C. should avoid going out in public until their weight is restored.

**Target Beliefs**

7-point rating scale from 1 (strongly disagree) to 7 (strongly agree)

1. J.C. would feel more positive about dating if they lost some weight.
2. J.C. has a reason to be embarrassed in swimsuits.
3. J.C. is in control of her weight status.
4. J.C. is at war with her body, which is inevitable in order to lose weight.
5. J.C. is not on the correct diet to lose weight successfully.

**Social Role Attributions**

Please consider your impression of J.C. more broadly after reading her personal disclosure, and rate the extent to which you believe the attributes below describe her using the scale provided.

7-point rating scale from 1 (strongly disagree) to 7 (strongly agree)

1. J.C. would make a good manager.
2. J.C. would make a good friend.
3. J.C. would make a good parent.
4. J.C. would make a good sibling.
5. J.C. would make a good citizen.

**Target Trait Attributions**

Please consider your impression of J.C. more broadly after reading her personal disclosure, and rate the extent to which you believe the attributes below describe her using the scale provided.

5-point rating scale from 1 (does not describe J.C.) to 5 (describes J.C. extremely well)

1. Determined.
2. Independent.
3. Active.
4. Influential.
5. Valued as an individual.
6. Sensitive to pain.
7. Unique.
8. Deserving.
9. Controlled by others.
10. Competent.
11. Confident.
12. Intelligent.
13. Accountable to others.
14. Helpful.
15. Attractive.
16. Friendly.
17. Useful to others.
18. Trustworthy.
19. Sincere.
20. Capable of reasoning.
21. Imaginative.
22. Sexually appealing.
23. Warm.
24. Dependent.
25. Lazy.
26. Likeable.
27. Moral.

**Target Subjectivity Items**

Please rate the extent to which you believe the qualities below describe J.C. using the scale provided.

5-point rating scale from 1 (does not describe J.C.) to 5 (describes J.C. extremely well)

1. Feels anger.
2. Feels disgust.
3. Feels excitement.
4. Feels joy.
5. Feels guilt.
6. Feels sadness.
7. Feels resentment.
8. Feels pleasure.
9. Feels passion.
10. Feels fear.
11. Feels shame.
12. Feels pain.
13. Feels pride.

**Perception of Teasing Scale (POTS)**

(Thompson, 1995)

This scale is interested in whether you were ever teased in school and how this affected you.

**First**, for each question rate how often you think you were teased in school.

**Second**, unless you responded “never” to the question, rate how upset you were by the teasing.

For the first question, 5-point rating scale from 1 (never) to 5 (very often).

For the second question, unless responded “never”, 5-point rating scale from 1 (not upset) to 5 (very upset).

1. People made fun of you because you were heavy.

How upset were you?

2. People made jokes about you being heavy.

How upset were you?

3. People laughed at you for trying out for sports because you were heavy.

How upset were you?

4. People called you names like “fatso.”

How upset were you?

5. People pointed at you because you were overweight.

How upset were you?

6. People snickered about your heaviness when you walked into a room alone.

How upset were you?

7. People made fun of you by repeating something you said because they thought it was dumb.

How upset were you?

8. People made fun of you because you were afraid to do something.

How upset were you?

9. People said you acted dumb.

How upset were you?

10. People laughed at you because you didn’t understand something.

How upset were you?

11. People teased you because you didn’t get a job.

How upset were you?

**Higher scores for the first question indicates more teasing.**

**Higher scores for the second question indicates the teasing upset them more.**

**Universal Measure of Bias-FAT (UMB-FAT)**

(Latner et al., 2008)

Each of the statements below refer to fat people. Please indicate to what extent you agree or disagree with each of the statements using the scales provided.

5-point rating scale from 1 (strongly disagree) to 5 (strongly agree)

1. Fat people tend toward bad behaviours.\*
2. Fat people are sloppy.\*
3. Sometimes I think that obese people are dishonest.\*
4. Fat people have bad hygiene.\*
5. In general, fat people don't think about the needs of other people.\*
6. Generally, people would not want to have a fat person as a roommate.\*
7. Generally, people like fat people.
8. Generally, people don't enjoy having a conversation with a fat person.\*
9. Generally, people would be comfortable having a fat person in their group of friends.
10. Generally, people would like having a fat person at their place of worship or community centre.
11. Generally, people find fat people attractive.
12. Fat people make good romantic partners.
13. Generally, people find fat people to be sexy.
14. Fat people are a turn-off.\*
15. Generally, people find fat people pleasant to look at.
16. In the future, I would be willing to live with someone who is fat.
17. In the future, I would be willing to work with someone who is fat.
18. In the future, I would be willing to live nearby someone who is fat.
19. In the future, I would be willing to continue a friendship with someone who is fat.

**\*Reverse coded**

**Higher scores indicate more bias against fat people.**



**Modified Weight Bias Internalization Scale (WBIS-M)**  
(Pearl & Puhl, 2014)

7-point rating scale from 1 (strongly disagree) to 7 (strongly agree)

Each of the statements below refers to your perceptions of your own weight. Please indicate to what extent you agree or disagree with each of the statements using the scales provided.

Please be assured that your answers will remain anonymous and confidential. There are no right or wrong answers.

1. Because of my weight, I feel that I am just as competent as anyone.\*
2. I am less attractive than most other people because of my weight.
3. I feel anxious about my weight because of what people might think of me.
4. I wish I could drastically change my weight.
5. Whenever I think a lot about my weight, I feel depressed.
6. I hate myself for my weight.
7. My weight is a major way that I judge my value as a person.
8. I don't feel that I deserve to have a really fulfilling social life, because of my weight.
9. I am OK being the weight that I am.\*
10. Because of my weight, I don't feel like my true self.
11. Because of my weight, I don't understand how anyone attractive would want to date me.

**\*Reverse coded**

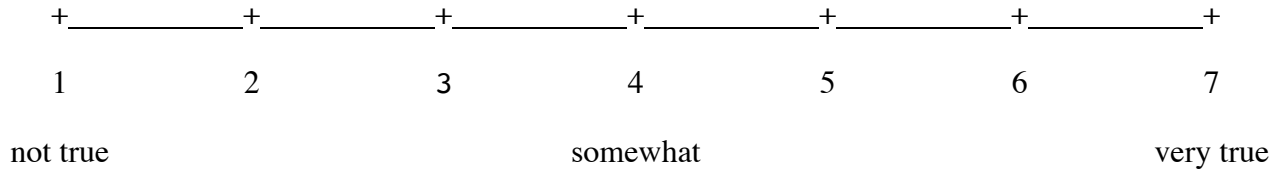
**Higher scores indicate more internalized weight bias.**

**16-Item Balanced Inventory of Desirable Responding**

(Hart et. al, 2015)

Seven-point scale ranging from 1(not true) to 7 (very true)

Using the scale below as a guide, write a number beside each statement to indicate how true it is.



1. I have not always been honest with myself. \*
2. I always know why I like things.
3. It's hard for me to shut off a disturbing thought. \*
4. I never regret my decisions.
5. I sometimes lose out on things because I can't make up my mind soon enough. \*
6. I am a completely rational person.
7. I am very confident of my judgments.
8. I have sometimes doubted my ability as a lover. \*
9. I sometimes tell lies if I have to. \*
10. I never cover up my mistakes. \*
11. There have been occasions when I have taken advantage of someone. \*
12. I sometimes try to get even rather than forgive and forget.
13. I have said something bad about a friend behind his/her back. \*
14. When I hear people talking privately, I avoid listening.
15. I never take things that don't belong to me.
16. I don't gossip about other people's business.

**\* Indicates reverse scored item.**

**Higher scores indicate higher levels of positive impression management.**

**Goldfarb Fear of Fat Scale**

(Goldfarb, 1985)

4-point rating scale ranging from 1 (very untrue) to 4 (very true)

Please read each of the following statements and select the mark which best represents your feelings and beliefs.

1. My biggest fear is of becoming fat.
2. I am afraid to gain even a little weight.
3. I believe there is a real risk that I will become overweight someday.
4. I don't understand how overweight people can live with themselves.
5. Becoming fat would be the worst thing that could happen to me.
6. If I stopped concentrating on controlling my weight, chances are I would become very fat.
7. There is nothing that I can do to make the thought of gaining weight less painful and frightening.
8. I feel like all my energy goes into controlling my weight.
9. If I eat even a little, I may lose control and not stop eating.
10. Staying hungry is the only way I can guard against losing control and becoming fat.

**Higher scores indicate a greater fear of becoming fat.**

**Participant Dieting and Exercise Intentions**

(items created for this study)

5-point rating scale from 1 (extremely unlikely) to 5 (extremely likely)

Each of the statements below refer to your plans for the next three months. Please read the following statements and indicate how likely you are to perform the actions described in the statements.

1. I intend to begin a new diet.
2. I intend to reduce my caloric intake.
3. I intend to increase my weekly exercise.
4. I intend to join a new exercise program.
5. I intend to lose weight.
6. I intend to eat healthily.
7. I intend to monitor my weight more closely.
8. I intend to start tracking my calories.

### Demographics

5-point rating scale from 1 (not knowledgeable at all) to 5 (extremely knowledgeable)

Please indicate any knowledge (general or specific) you have in the following areas:

1. Eating Disorders.
2. Dieting.
3. Weight Loss Programs.
4. Weight Neutral Programs.
5. Obesity.

1. Age \_\_\_\_\_

2. Gender
  - Female
  - Male
  - Transgender
  - Non-binary
  - Other \_\_\_\_\_

3. How would you describe your education level?
  - No formal education
  - Primary level education
  - Secondary level education
  - College education (Bachelor's degree)
  - Graduate education (Graduate degree)

4. Is English your primary language?
  - Yes
  - No

5. If you answered "No" to the last question, how would you rate your English proficiency?
  - Fluent
  - Moderate
  - Basic

6. How would you describe your ethnic background?
  - White – American
  - White – Other
  - Hispanic
  - Asian
  - Native American
  - First Nation
  - Pacific Islander
  - African American

- Other \_\_\_\_\_
7. What is your religious affiliation?
- Christian
  - Jewish
  - Muslim
  - Hindu
  - Other
  - None
8. How would you describe your marital status?
- Single, never married
  - Married without children
  - Married with children
  - Divorced
  - Separated
  - Widowed
  - Living w/ partner
9. How would you rate your own socio-economic status? Please answer on the scale below from lower class to upper class.  
I consider myself to be:
- Lower class
  - Working class
  - Lower middle class
  - Middle class
  - Upper middle class
  - Upper class
10. Think about your weight pattern over the last year. Which of the following best describes this pattern?
- Steadily decreased by more than 5 lbs.
  - Stayed relatively stable (disregarding normal fluctuations with water consumption, waste and scale accuracy)
  - Decreased by more than 5 lbs.
  - Weight cycled by increasing and decreasing by more than 5 lbs in either direction
11. Do you know someone who has struggled with an eating disorder?
- Yes
  - No
12. Have you had personal experience with an eating disorder (diagnosed or not)?
- Yes
  - No

## Appendix F: Debriefing Form

**Debriefing****Investigation of Student Disclosure in College Application Essays**

Thank you for participating!

This form will explain to you in more detail the purpose of the study and aspects of the study that were not explained to you before the study began. At the beginning of the study, we told you we were interested in examining how a disclosure in college applications influences perceptions and the likelihood of acceptance to the university. In actuality, the true purpose of this study was to gain a deeper understanding of the impact of multiple marginalized group membership on eating disorder detection. Eating disorders are often perceived as disorders that only impact white, thin, middle and upper-class women. However, eating disorders are not exclusive and affect people of all ethnicities and weights. This research aims to identify a potential barrier to treatment among members of marginalized populations.

If participating in this study has caused you any distress or discomfort, please be aware that the researchers of this study are available to answer questions and discuss the purposes of the research further. Additionally, there are resources for counseling and support services on campus through **Student Health Services** or **Psychological Services at Western**. Eating disorders are serious mental illnesses which require intervention and treatment. If you or someone you know are struggling with disordered eating or self-harm behaviours, please do not hesitate to seek support. The **National Eating Disorder Information Centre** hotline is **1-866-633-4220** and can also be reached online at <http://www.nedic.ca/give-get-help/contact-nedic> .

**If you are experiencing or thinking about harming yourself in any way, we encourage you to call** the crisis hotline: 1-833-456-4566 or text 45645. This hotline is available 24 hours a day, 7 days a week.

Finally, we ask you not to talk about this study with others to ensure that prospective participants do not receive information that may influence their responses and the overall results. By participating in this study, you have contributed to results that will help inform the ongoing discussion regarding the prevention of disordered eating and self-harm in women belonging to marginalized groups.

We are here to answer any questions you may have about the study. Please feel free to contact Maggie Head or Dr. Rachel Calogero. Please keep a copy of this letter for your records. If you have questions about your rights as a research subject, you should contact the Director of the Office of Human Research Ethics.

Thank you again for your time and participation – it is greatly appreciated!

Maggie Head and Dr. Rachel Calogero

**For further information, you may find the following readings of interest:**

Becker, A. E., Hadley Arrindell, A., Perloe, A., Fay, K., & Striegel-Moore, R. H. (2010). A qualitative study of perceived social barriers to care for eating disorders: Perspectives from ethnically diverse health care consumers. *International Journal of Eating Disorders*, 43(7), 633–647.

Gordon, K. H., Perez, M., & Joiner, T. E. (2002). The impact of racial stereotypes on eating disorder recognition. *International Journal of Eating Disorders*, 32(2), 219–224.

Marques, L., Alegria, M., Becker, A. E., Chen, C. N., Fang, A., Chosak, A., & Diniz, J. B. (2011). Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. *International Journal of Eating Disorders*, 44(5), 41.



## Appendix G: Tables of Descriptive Statistics for Main Study Items and Covariate Measures

**Table 2***Means, Standard Deviations, Minimum and Maximum Values for Detection of Disordered Eating Behaviors and Cognition Variables*

Ethnicity	Weight Status	Dependent Variable	White			Black		
			Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Has an eating disorder	M (SD)		5.22 (1.33)	5.48 (1.19)	6.23 (.88)	5.17 (1.47)	5.23 (1.22)	6.35 (1.17)
	Min		2	2	3	2	2	2
	Max		7	7	7	7	7	7
Needs psychological support	M (SD)		5.31 (1.33)	5.59 (1.15)	5.91 (1.15)	5.43 (1.44)	5.07 (1.08)	6.16 (1.00)
	Min		2	2	3	1	3	2
	Max		7	7	7	7	7	7
Needs medical support	M (SD)		4.06 (1.39)	4.27 (1.49)	4.97 (1.74)	4.03 (1.42)	3.67 (1.42)	5.19 (1.20)
	Min		1	1	1	1	1	2
	Max		6	7	7	6	6	7
Needs social support	M (SD)		5.86 (1.15)	6.00 (1.14)	6.37 (.77)	6.06 (1.06)	5.80 (1.24)	6.23 (1.02)
	Min		2	2	4	3	2	2
	Max		7	7	7	7	7	7

**Table 3***Means, Standard Deviations, Minimum and Maximum Values for Prescriptions for Eating and Exercise-related Behaviors Variables*

Ethnicity		White			Black		
		Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Weight Status							
Dependent Variable							
Should be concerned about her eating behavior	M (SD)	5.03 (1.30)	5.19 (1.62)	5.69 (1.51)	5.17 (1.40)	4.97 (1.54)	6.17 (1.04)
	Min	2	2	1	1	2	2
	Max	7	7	7	7	7	7
Should lose the weight she regained recently	M (SD)	4.46 (1.29)	3.00 (1.44)	2.57 (1.29)	3.71 (1.30)	3.10 (1.30)	2.06 (.96)
	Min	1	1	1	2	1	1
	Max	6	7	5	6	6	4
Should learn her pursuit of weight loss is not working	M (SD)	3.22 (1.62)	2.85 (1.38)	4.46 (1.67)	2.66 (1.61)	3.00 (1.46)	4.39 (1.86)
	Min	1	1	1	1	1	1
	Max	7	6	7	6	6	7
Should do whatever it takes to reach her goal weight	M (SD)	2.94 (1.69)	2.30 (1.38)	1.69 (1.16)	2.77 (1.63)	2.30 (1.39)	1.74 (.93)
	Min	1	1	1	1	1	1
	Max	7	7	5	7	7	4
Should try eating intuitively	M (SD)	4.03 (1.70)	4.56 (1.85)	5.25 (1.60)	4.40 (1.79)	4.77 (1.59)	5.06 (1.57)
	Min	1	1	1	1	1	1
	Max	7	7	7	7	7	7
Should continue exercising even though it makes her miserable	M (SD)	4.89 (1.43)	4.04 (1.48)	4.14 (1.48)	3.83 (1.62)	4.00 (1.76)	3.58 (1.50)
	Min	2	2	1	1	1	1
	Max	7	7	7	7	6	6

Ethnicity	Weight Status	Dependent Variable	White			Black		
			Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Should avoid exercise	M (SD)	3.67 (1.60)	3.56 (1.45)	4.66 (1.47)	3.80 (1.47)	4.00 (1.41)	4.77 (1.38)	
	Min	1	2	1	1	1	2	
	Max	6	6	7	7	7	7	
Should avoid going out in public until her weight is restored	M (SD)	1.25 (.44)	1.33 (1.18)	1.11 (.32)	1.17 (.45)	1.27 (.64)	1.55 (.89)	
	Min	1	1	1	1	1	1	
	Max	2	7	2	3	4	5	
Should not drastically restrict her food intake	M (SD)	5.72 (1.21)	5.78 (1.50)	6.29 (.86)	5.91 (1.34)	5.83 (1.12)	5.94 (1.60)	
	Min	2	2	3	2	3	1	
	Max	7	7	7	7	7	7	
Should keep recording everything she is eating	M (SD)	4.22 (1.70)	3.67 (1.47)	3.60 (1.56)	4.14 (1.80)	3.77 (1.63)	3.23 (1.41)	
	Min	1	1	1	1	1	1	
	Max	7	7	7	7	6	5	
Should go ahead and do the things she is postponing until her body is more "acceptable"	M (SD)	4.14 (2.14)	4.37 (2.50)	4.31 (2.58)	3.94 (2.44)	4.10 (2.47)	4.35 (2.58)	
	Min	1	1	1	1	1	1	
	Max	7	7	7	7	7	7	
Should gain control of her eating so she can meet her goal of 1200 calories a day	M (SD)	4.03 (1.67)	3.52 (1.42)	3.23 (1.37)	3.86 (1.52)	3.23 (1.38)	3.26 (1.32)	
	Min	1	2	1	1	1	1	
	Max	7	7	6	7	6	6	
Should regain the weight lost by eating more for awhile	M (SD)	2.44 (1.08)	2.78 (.89)	3.77 (1.53)	2.31 (1.10)	2.50 (.94)	4.03 (1.35)	
	Min	1	2	1	1	1	2	
	Max	5	4	6	5	4	7	

**Table 4**  
*Means, Standard Deviations, Minimum and Maximum Values for Beliefs about the Target Variables*

Ethnicity		White			Black		
Weight Status		Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Dependent Variable							
Would feel more positive about dating if she lost some weight	M (SD)	4.19 (1.91)	4.11 (1.67)	4.34 (1.85)	4.51 (1.58)	3.97 (1.79)	3.42 (1.77)
	Min	1	2	1	1	1	1
	Max	7	7	7	7	7	6
Has a reason to be embarrassed in swimsuits	M (SD)	2.53 (1.70)	2.30 (1.94)	1.94 (1.66)	2.43 (1.75)	2.10 (1.81)	2.00 (1.32)
	Min	1	1	1	1	1	1
	Max	6	7	7	7	7	5
Is not on the correct diet to lose weight	M (SD)	4.69 (1.43)	5.00 (1.36)	5.46 (1.34)	5.00 (1.41)	5.00 (1.53)	4.81 (1.22)
	Min	2	2	3	2	1	2
	Max	7	7	7	7	7	7
Is at war with her body, which is inevitable to lose weight	M (SD)	4.69 (1.67)	4.26 (1.40)	4.60 (2.06)	3.86 (1.67)	4.43 (1.43)	4.42 (1.63)
	Min	1	2	1	1	1	1
	Max	7	7	7	6	7	7
Is in control of her weight status	M (SD)	3.61 (1.50)	3.33 (1.44)	3.17 (1.54)	3.46 (1.36)	3.90 (1.49)	2.97 (1.25)
	Min	1	1	1	1	1	1
	Max	7	7	6	6	7	5

**Table 5**  
*Means, Standard Deviations, Minimum and Maximum Values for Trait Attributions of Target Variables*

Ethnicity	Weight Status	Dependent Variable	White			Black		
			Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Valued	M (SD)	3.00 (1.10)	2.07 (1.03)	3.43 (1.24)	2.34 (1.03)	2.70 (1.34)	2.52 (1.09)	
	Min	1	1	1	1	1	1	
	Max	5	5	5	5	5	5	
Warmth	M (SD)	2.69 (1.09)	2.33 (.88)	1.97 (.99)	2.43 (1.07)	2.47 (1.14)	2.06 (1.00)	
	Min	1	1	1	1	1	1	
	Max	5	4	5	5	4	4	
Pain sensitivity	M (SD)	3.42 (1.13)	4.00 (1.04)	3.69 (.99)	3.66 (1.03)	3.03 (1.33)	3.87 (.99)	
	Min	1	1	2	1	1	2	
	Max	5	5	5	5	5	5	
Capable of reasoning	M (SD)	2.89 (1.19)	2.59 (1.08)	2.49 (1.12)	3.06 (1.08)	3.00 (.95)	2.03 (1.11)	
	Min	1	1	1	1	1	1	
	Max	5	5	4	5	5	5	
Determined	M (SD)	3.39 (.73)	3.15 (.82)	3.63 (1.06)	3.49 (.98)	3.03 (.89)	3.23 (1.18)	
	Min	2	1	2	2	2	1	
	Max	5	4	5	5	5	5	
Independent	M (SD)	2.92 (.94)	2.74 (.98)	2.92 (1.11)	2.92 (1.17)	2.67 (1.21)	2.87 (1.09)	
	Min	1	1	1	1	1	1	
	Max	5	4	5	5	5	4	
Active	M (SD)	2.56 (1.00)	2.63 (1.01)	2.77 (.91)	2.57 (.98)	2.77 (.82)	2.87 (.81)	
	Min	1	1	1	1	1	2	
	Max	4	4	5	5	4	4	
Influential	M (SD)	2.14 (1.10)	1.89 (.93)	1.71 (.83)	2.37 (1.35)	1.90 (1.19)	1.90 (.94)	
	Min	1	1	1	1	1	1	
	Max	5	4	4	5	5	4	

Ethnicity Weight Status Dependent Variable	White			Black			
		<u>Overweight (N=36)</u>	<u>Average (N=27)</u>	<u>Underweight (N=35)</u>	<u>Overweight (N=35)</u>	<u>Average (N=30)</u>	<u>Underweight (N=31)</u>
Unique	M (SD)	2.81 (1.04)	2.67 (1.07)	2.49 (1.12)	2.40 (1.12)	2.33 (1.06)	2.42 (.92)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	4
Deserving	M (SD)	3.31 (1.28)	2.96 (1.13)	3.14 (1.24)	3.20 (1.08)	2.87 (1.31)	2.90 (1.22)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
Controlled by others	M (SD)	3.19 (1.22)	3.74 (1.16)	3.60 (1.42)	3.49 (1.34)	3.23 (1.25)	3.52 (1.48)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
Competent	M (SD)	2.69 (.86)	3.00 (1.04)	2.66 (.97)	3.00 (1.09)	2.87 (1.07)	2.61 (1.05)
	Min	1	1	1	1	1	1
	Max	4	5	5	5	5	5
Confident	M (SD)	1.19 (.58)	1.37 (.69)	1.29 (.67)	1.31 (.68)	1.47 (.90)	1.16 (.58)
	Min	1	1	1	1	1	1
	Max	4	4	4	4	5	4
Intelligent	M (SD)	2.75 (1.03)	2.85 (1.13)	2.66 (.97)	2.63 (1.03)	2.77 (1.10)	2.58 (.96)
	Min	1	1	1	1	1	1
	Max	5	5	4	5	5	4
Accountable	M (SD)	2.39 (1.15)	2.26 (1.02)	2.09 (.98)	2.26 (.98)	2.33 (.96)	2.16 (.93)
	Min	1	1	1	1	1	1
	Max	4	4	4	5	4	4

Ethnicity Weight Status Dependent Variable		White			Black		
		Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Helpful	M (SD)	2.17 (1.08)	1.96 (.94)	1.89 (.83)	1.97 (.95)	2.13 (1.14)	1.84 (.90)
	Min	1	1	1	1	1	1
	Max	5	4	4	5	4	4
Attractive	M (SD)	2.08 (1.11)	2.56 (1.16)	2.54 (.95)	2.14 (.97)	2.20 (1.24)	2.06 (.96)
	Min	1	1	1	1	1	1
	Max	4	5	4	4	5	5
Friendly	M (SD)	2.71 (1.09)	2.56 (.93)	2.60 (1.00)	2.49 (1.04)	2.53 (1.17)	2.68 (1.01)
	Min	1	1	1	1	1	1
	Max	5	4	4	4	4	5
Useful	M (SD)	2.11 (1.09)	2.04 (1.06)	2.31 (1.16)	2.23 (.94)	2.30 (1.18)	2.16 (.82)
	Min	1	1	1	1	1	1
	Max	4	4	5	4	4	4
Trustworthy	M (SD)	2.50 (1.34)	2.30 (1.10)	2.66 (1.24)	2.49 (1.15)	2.47 (1.25)	2.61 (1.17)
	Min	1	1	1	1	1	1
	Max	5	4	5	5	4	5
Sincere	M (SD)	3.50 (1.25)	3.30 (1.24)	3.37 (1.23)	3.57 (1.17)	3.20 (1.16)	3.29 (1.24)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
Imaginative	M (SD)	2.28 (1.06)	2.59 (1.05)	2.54 (1.29)	2.29 (1.30)	2.30 (1.12)	2.23 (.99)
	Min	1	1	1	1	1	1
	Max	4	4	5	5	4	5

Ethnicity Weight Status Dependent Variable		<u>White</u>			<u>Black</u>		
		<u>Overweight (N=36)</u>	<u>Average (N=27)</u>	<u>Underweight (N=35)</u>	<u>Overweight (N=35)</u>	<u>Average (N=30)</u>	<u>Underweight (N=31)</u>
Sexually appealing	M (SD)	1.78 (.99)	2.19 (1.15)	2.03 (.86)	1.77 (.94)	1.97 (1.38)	1.71 (1.04)
	Min	1	1	1	1	1	1
	Max	4	5	4	4	5	5
Dependent	M (SD)	2.83 (1.00)	2.96 (1.22)	3.14 (1.31)	2.77 (1.19)	2.73 (1.17)	2.90 (1.33)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	4	5
Lazy	M (SD)	1.94 (.83)	1.85 (1.03)	1.69 (.90)	2.09 (1.10)	2.27 (1.17)	1.71 (.86)
	Min	1	1	1	1	1	1
	Max	4	5	4	5	5	4
Likeable	M (SD)	2.75 (1.25)	2.56 (1.01)	2.66 (.87)	2.46 (1.01)	2.70 (1.02)	2.52 (1.03)
	Min	1	1	1	1	1	1
	Max	5	4	4	5	5	4
Moral	M (SD)	2.75 (1.13)	2.25 (.86)	2.49 (1.12)	2.46 (1.09)	2.47 (1.14)	2.52 (.96)
	Min	1	1	1	1	1	1
	Max	5	4	5	5	5	5



**Table 6**  
*Means, Standard Deviations, Minimum and Maximum Values for Social Role Attributions of Target Variables*

Ethnicity	Weight Status	Dependent Variable	White			Black		
			Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Good employee	M (SD)		4.36 (1.15)	3.89 (1.12)	4.14 (1.42)	4.06 (1.16)	4.47 (1.25)	3.90 (.98)
	Min		2	2	1	2	2	2
	Max		6	6	7	6	7	6
Good coworker	M (SD)		4.14 (1.15)	3.85 (1.03)	3.91 (1.31)	4.29 (1.30)	4.43 (1.25)	3.87 (1.02)
	Min		2	2	1	2	2	2
	Max		6	6	6	7	7	6
Good manager	M (SD)		3.72 (1.14)	3.19 (1.24)	2.89 (1.08)	3.31 (1.55)	3.57 (1.38)	3.13 (1.15)
	Min		2	1	1	1	1	1
	Max		6	6	5	7	7	6
Good friend	M (SD)		4.64 (1.20)	4.44 (1.01)	4.37 (1.11)	4.80 (1.13)	4.87 (1.22)	4.23 (.88)
	Min		2	3	2	3	3	2
	Max		7	7	6	7	7	6
Good parent	M (SD)		4.17 (1.25)	3.93 (1.17)	3.40 (1.31)	4.03 (1.42)	4.17 (1.46)	3.35 (.96)
	Min		2	2	1	1	1	2
	Max		7	7	6	7	7	7
Good sibling	M (SD)		4.44 (1.25)	4.30 (.99)	4.03 (1.20)	4.66 (1.08)	4.63 (1.25)	4.16 (.97)
	Min		1	3	1	3	3	2
	Max		7	7	6	7	7	6
Good citizen	M (SD)		4.78 (1.15)	4.74 (.98)	4.80 (1.10)	5.14 (1.14)	5.07 (1.17)	4.55 (1.12)
	Min		3	4	3	4	3	2
	Max		7	7	7	7	7	7

**Table 7***Means, Standard Deviations, Minimum and Maximum Values for Subjectivity of Target Variables*

Ethnicity	White			Black			
	Weight Status	<u>Overweight (N=36)</u>	<u>Average (N=27)</u>	<u>Underweight (N=35)</u>	<u>Overweight (N=35)</u>	<u>Average (N=30)</u>	<u>Underweight (N=31)</u>
Dependent Variable							
Feels anger	M (SD)	2.89 (1.17)	3.44 (.93)	3.26 (1.15)	3.11 (1.21)	2.93 (1.14)	3.29 (1.37)
	Min	1	2	1	1	1	1
	Max	5	5	5	5	5	5
Feels disgust	M (SD)	3.47 (1.30)	4.15 (1.03)	4.06 (1.11)	3.91 (1.17)	3.70 (1.24)	4.19 (1.08)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
Feels excitement	M (SD)	1.97 (.97)	1.56 (.70)	1.69 (.83)	1.74 (.98)	1.57 (.68)	1.58 (.81)
	Min	1	1	1	1	1	1
	Max	4	3	4	5	3	4
Feels joy	M (SD)	1.89 (.98)	1.48 (.70)	1.60 (.60)	1.60 (1.00)	1.50 (.73)	1.39 (.72)
	Min	1	1	1	1	1	1
	Max	3	3	3	5	4	4
Feels guilt	M (SD)	4.25 (.97)	4.63 (.49)	4.46 (.70)	4.40 (1.00)	4.17 (1.15)	4.42 (.81)
	Min	1	4	2	1	1	3
	Max	5	5	5	5	5	5
Feels sadness	M (SD)	4.06 (.96)	4.30 (.82)	4.00 (1.03)	4.29 (.75)	4.10 (.61)	4.42 (.85)
	Min	2	2	1	2	3	2
	Max	5	5	5	5	5	5

Ethnicity Weight Status Dependent Variable	White			Black			
		Overweight (N=36)	Average (N=27)	Underweight (N=35)	Overweight (N=35)	Average (N=30)	Underweight (N=31)
Feels resentment	M (SD)	3.53 (1.18)	4.19 (.92)	4.00 (1.03)	3.80 (1.21)	3.50 (1.14)	4.03 (1.22)
	Min	1	2	1	1	1	1
	Max	5	5	5	5	5	5
Feels pleasure	M (SD)	2.03 (.94)	1.51 (.80)	1.69 (.76)	1.80 (.99)	1.70 (.88)	1.61 (.76)
	Min	1	1	1	1	1	1
	Max	4	4	4	4	4	4
Feels passion	M (SD)	2.78 (1.38)	2.15 (1.13)	2.63 (1.31)	2.23 (.97)	2.37 (1.23)	2.17 (1.17)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
Feels fear	M (SD)	3.40 (1.30)	3.67 (1.11)	3.49 (1.34)	3.63 (1.11)	3.53 (1.14)	3.71 (1.04)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
Feels shame	M (SD)	4.19 (1.12)	4.56 (.64)	4.43 (.95)	4.49 (.70)	4.30 (.70)	4.39 (.88)
	Min	1	3	1	3	3	2
	Max	5	5	5	5	5	5
Feels pain	M (SD)	3.56 (1.21)	3.85 (.99)	3.77 (1.19)	3.66 (1.06)	3.50 (1.01)	3.97 (1.08)
	Min	1	1	1	1	2	2
	Max	5	5	5	5	5	5
Feels pride	M (SD)	1.64 (.90)	1.56 (.85)	1.91 (1.20)	1.74 (.89)	1.47 (.78)	1.61 (.84)
	Min	1	1	1	1	1	1
	Max	5	4	5	4	4	4

**Table 8***Means, Standard Deviations, Minimum and Maximum Values for Behavioral Intentions of Participants Variables*

Ethnicity	White			Black			
		<u>Overweight (N=36)</u>	<u>Average (N=27)</u>	<u>Underweight (N=35)</u>	<u>Overweight (N=35)</u>	<u>Average (N=30)</u>	<u>Underweight (N=31)</u>
Weight Status							
Dependent Variable							
I intend to start counting calories	M (SD)	2.00 (1.17)	1.96 (1.16)	1.69 (1.11)	1.82 (1.12)	2.00 (1.29)	2.10 (1.93)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
I intend to go on a diet	M (SD)	2.33 (1.31)	2.44 (1.40)	2.83 (1.86)	2.54 (1.20)	2.77 (1.31)	2.90 (1.38)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
I intend to start restricting my intake	M (SD)	2.47 (1.38)	2.41 (1.42)	2.91 (1.44)	2.66 (1.37)	2.50 (1.41)	3.03 (1.52)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
I intend to increase my exercise	M (SD)	3.64 (1.15)	3.93 (1.00)	4.14 (.97)	3.60 (1.24)	3.90 (1.09)	3.94 (1.09)
	Min	1	2	1	1	1	1
	Max	5	5	5	5	5	5
I intend to begin a new exercise program	M (SD)	2.81 (1.28)	2.63 (1.47)	3.00 (1.21)	2.77 (1.26)	2.87 (1.38)	2.61 (1.15)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
I intend to lose weight	M (SD)	2.64 (1.61)	2.48 (1.48)	3.26 (1.31)	2.80 (1.55)	2.97 (1.63)	3.26 (1.48)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5
I intend to begin eating healthier	M (SD)	3.97 (1.00)	4.19 (.83)	4.26 (.85)	2.94 (1.08)	4.03 (1.12)	4.13 (.96)
	Min	1	2	1	1	1	1
	Max	5	5	5	5	5	5
I intend to monitor my weight more closely	M (SD)	2.39 (1.44)	2.37 (1.28)	2.49 (1.15)	2.69 (1.39)	2.73 (1.41)	3.10 (1.58)
	Min	1	1	1	1	1	1
	Max	5	5	5	5	5	5

**Table 9***Means, Standard Deviations, and Inter-Correlations for Covariate Measures*

Measure	<i>M</i>	<i>SD</i>	1	2	3	4
1. Past Teasing Experiences	1.37	0.59				
2. Anti-fat Attitudes	3.78	0.45	0.058			
3. Positive Impression Management	4.11	0.36	-0.129	0.003		
4. Internalized Weight Stigma	2.92	1.36	0.393**	0.267**	-0.213**	
5. Fat Phobia	1.80	0.56	0.244**	0.13	-0.170**	0.641**

*N*=194.\* *p* < .01.\*\* *p* < .001.

## Appendix H: Curriculum Vitae

**Maggie L. Head**

Department of Psychology  
Western University

## EDUCATION

- 
- |      |   |
|------|---|
| 2019 | <b>Masters of Science in Psychology</b><br>Western University, London, Ontario, Canada<br><i>Supervisor:</i> Rachel Calogero, Ph.D.   |
| 2016 | <b>Bachelor of Science in Psychology, Summa Cum Laude Honours</b><br><b>Specialization: Gender, Sexuality and the Body</b><br>Santa Clara University, Santa Clara, California |

## GRANTS, HONORS, AND SCHOLARSHIPS

- 
- |                |  |
|----------------|--|
| 2019 – 2020    | Promising Scholar Award for Prevention Science                             |
| 2018           | Renfrew Center Foundation Scholarship                                      |
| 2017 - 2019    | Western Graduate Research Scholarship                                      |
| 2016           | Wilhelm Wundt Award for Scholarship, Research, and Service in Psychology   |
| 2015 – Present | Psi Chi Honor Society  |
| 2015 - 2016    | Iota Iota Iota Honor Society (National Honors Society for Women's Studies) |
| 2014 – 2016    | LEAD Scholar (First-Generation College Students), Santa Clara University   |
| 2014 – 2016    | Academic Merit Scholarship, Santa Clara University                         |
| 2014 - 2016    | Dean's List, College of Arts and Sciences, Santa Clara University          |
| 2013 – 2014    | Dean's List, Faculty of Social Science, Diablo Valley College              |
| 2012 - Present | National Society of Collegiate Scholars Member                             |

## RESEARCH

***Publications***

Head, M. L., & Bruchmann, K. (2019). The effects of health frame and target relevance in appearance social comparisons. *Journal of Applied Social Psychology, 49*(1), 27–35.  
<https://doi.org/10.1111/jasp.12562>

***Conference Presentations***

Head, M.L. & Calogero, R.M. (2019, June). *An investigation of eating disorder detection among marginalized women as a function of weight status and ethnic group*. Poster to be presented at the International Weight Stigma Conference, London, ON, Canada.

Shen, A., Head, M.L., & Calogero, R.M. (2019, June). *Internalized appearance beliefs and dysfunctional eating and exercise in university students: The role of self-concept clarity*. Poster to be presented at the International Weight Stigma Conference, London, ON, Canada.

Head, M.L., Calogero, R.M., & Siegel, J. (2018, November). *Entrenched weight stigma in eating disorder recognition: Sizeist perceptions of persons with eating disorders*. Poster presented at the Renfrew Center Foundation Conference for Professionals, Philadelphia, PA.

Head, M.L., Calogero, R.M., & Siegel, J. (2018, April). *Prescribing or pathologizing weight loss? Sizeist perceptions of persons with eating disorders as a function of target weight status*. Poster presented at the International Conference for Eating Disorders, Chicago, IL.

Head, M.L., Calogero, R.M., & Siegel, J. (2018, April). *Prescribing or pathologizing weight loss? Sizeist perceptions of persons with eating disorders as a function of target weight status*. Poster presented at the Appearance Matters 8 Conference, Bath, United Kingdom.

Head, M.L. & Bruchmann, K. (2017, April). *Painting a complete picture of appearance social comparisons: The importance of health framing and gender*. Poster presented at the Western Psychological Association Conference, Sacramento, CA.

Head, M.L. & Bruchmann, K. (2016, April). *Target relevance and appearance social comparisons*. Poster presented at the Western Psychological Conference for Undergraduate Research, Moraga, CA.

Head, M.L. & Bruchmann, K. (2015, November). *Stop blaming supermodels: The impact of peers on body image*. Talk presented at the Santa Clara University Undergraduate Research Conference, Santa Clara, CA.

### ***Invited Talks and Lectures***

Head, M.L. (2018, November). *Eating disorders, body image and diet culture*. Talk presented at Laurie Hawkins Public School, Ingersoll, ON, Canada.

Head, M.L. (2018, October). *Approaching and supporting clients with eating disorders*. Talk presented at LEADS Disability Employment Services, London, ON, Canada.

Head, M.L. (2018, September). *Risk factors, presentation, and prevention of disordered eating among adolescent girls*. Talk presented at Hope's Eating Disorder Support Annual Board, London, ON, Canada.

Head, M.L. (2018, May). *Embodiment and sport-specific disordered eating in female athletes*. Talk presented at the Redefining Female Distance Running Summit, Boulder, CO.

Head, M.L. (2018, February). *Intersections of weight stigma, eating disorder stereotypes and oppression*. Talk presented at Santa Clara University, Santa Clara, CA.

Head, M.L. (2015, May). *Picture-perfect anorexia: Navigating the social construction of an eating disorder ideal*. Lecture presented at Santa Clara University, Santa Clara, CA.

Head, M.L. (2014, March). *Eating disorders: Myths, facts, and how to help*. Lecture presented at Las Lomas High School, Walnut Creek, CA.

Head, M.L. (2013, February). *Diversity and vulnerability in the development of eating disorders*. Talk presented at Las Lomas High School, Walnut Creek, CA.

### *Experience*

2019-Present	<b>Graduate Research Assistant</b> Kinesiology Psychology and Health Laboratory, Western University <i>Supervisor: Eva Pila, Ph.D.</i>
2017- Present	<b>Graduate Research Assistant</b> <b>Undergraduate Mentor</b> Social Psychology Stigma, Objectification, Bodies and Resistance Lab, Western University <i>Supervisor: Rachel Calogero, Ph.D.</i>
2016-2017	<b>Research Assistant</b> Neuropsychology Affective Neuroscience Laboratory, Santa Clara University <i>Supervisor: Birgit Koopman-Holm, Ph.D.</i>
2015-2017	<b>Research Assistant</b> Psychology Social Psychology Laboratory, Santa Clara University <i>Supervisor: Kathryn Bruchmann, Ph.D.</i>
2015	<b>Director, Conference for Undergraduate Psychological Research</b> Santa Clara University, Santa Clara, CA

### MANUSCRIPTS IN PREPARATION

---

Head, M.L., Calogero, R.M., & Siegel, J. (2019). *Prescribing or pathologizing weight loss? Sizeist perceptions of persons with eating disorders as a function of target weight status*.

Head, M. L., & Bruchmann, K. (2019). *Appearance comparisons among female college students: The roles of construal mindset and the local dominance effect*. *Frontiers in Psychology*.

Head, M. L., & Calogero, R.M. (2019). *The influence of orthorexic eating patterns on functional hypothalamic amenorrhea and injury history for female sport participants*.

Head, M. L., & Calogero, R.M. (2019). *Sport perfectionism and orthorexia nervosa among female athletes: The role of body shame*.



Head, M. L., & Calogero, R.M. (2019). *Orthorexic tendencies among female sport participants: An extension of the objectification model of disordered eating.*

Shen, A., Head, M.L., & Calogero, R.M. (2019). *Internalized appearance beliefs and dysfunctional eating and exercise in university students: The role of self-concept clarity.*

Head, M. L., & Calogero, R.M. (2019). *Self-harming behaviors among female athletes: Prevalence and frequencies.*

Koopman-Holm, B. & Head, M.H. (2019). *The role of avoidance of ideal negative affect in dietary restraint and binge/purge behaviors in a community sample.*

## TEACHING EXPERIENCE

---

2019 – Present	<b>Primary Facilitator</b> <i>Strong Like a Girl:</i> A Disordered Eating Intervention Program for Adolescent Girls
2017-Present	<b>Teaching Assistant</b> <i>Science of Romantic Relationships</i> , Western University <i>Psychology of Gender</i> , Western University <i>Psychology in Work</i> , Western University <i>Hormones and Behavior</i> , Western University
2016-Present	<b>Guest Lecturer</b> <i>Women, Gender, and Sexuality</i> , Santa Clara University <i>Psychology of Gender</i> , Santa Clara University
2013-Present	<b>Guest Lecturer</b> <i>Advanced Placement in Psychology</i> , Body Image & Eating Disorders Las Lomas High School, Walnut Creek, CA <i>Health Psychology</i> , Las Lomas High School, Walnut Creek, CA

## PROFESSIONAL SERVICE & AFFILIATIONS

---

2019	<b>International Weight Stigma Conference Organizing Committee</b>
2018 - Present	<b>Peer Reviewer, <i>Body Image</i></b>
2018 - Present	<b>Director of Community Outreach and Education, Hope's Eating Disorder Support</b>
2018- Present	<b>Director of Intervention Development</b> <b>Hope's Eating Disorder Support</b> <i>Strong Like a Girl:</i> A Disordered Eating Intervention Program for Adolescent Girls
2017- Present	<b>Member, Academy for Eating Disorders (AED)</b> Special Interest Group: Weight Stigma and Social Justice Special Interest Group: Exercise and Recovery Special Interest Group: Diversity and Inclusion

2017 – Present	<b>Research Coordinator, Strong Runner Chicks</b> Bringing Awareness to Eating Disorders in Female Athletes
2017 – Present	<b>Member, Association for Size Diversity and Health (ASDAH)</b>
2015 – Present	<b>Member, Western Psychological Association</b>
2015- Present	<b>Member, American Psychological Association</b>
2015- Present	<b>Member, Psi Chi Honour Society</b>
2014-2016	<b>Member, G.A.S.P.E.D. (Gay and Straight People for the Education of Diversity)</b>
2014-Present	<b>Member, N.A.M.I. (National Alliance for Mental Illness)</b>

#### COMMUNITY SERVICE EXPERIENCE

---

2018	<b>Volunteer, RBC Run for Pride and Diversity</b>
2018 – Present	<b>Volunteer, Hope's Eating Disorder Support</b>
2015 – 2017	<b>Volunteer, GASPED at San Francisco Pride Festival</b>
2013 - 2017	<b>Volunteer, National Eating Disorder Association (NEDA)</b>
2012 - Present	<b>Speaker, Eating Disorder Advocacy and Recovery Stories</b>