Food Type Versus Amount Eaten As Impression-Management Strategies After Ego Threats

by

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Decisions about type of food selected and amount of food eaten are influenced by numerous factors. The aim of this series of studies was to examine under which conditions impression-management techniques, specifically food selection or amount of food eaten, would be implemented after experiencing ego threats. A secondary goal was to determine whether female restrained eaters (dieters) and unrestrained eaters (non-dieters) utilized different impression-management techniques. A series of three experimental studies and two surveys were conducted in order to examine these aims. Experiment 1 found that female dieters, after experiencing an ego threat, selected a healthy snack more often than an unhealthy snack when under pressure to choose an unhealthy snack. The second experiment found that when participants were not under pressure to select a specific snack (healthy or unhealthy), both dieters and non-dieters chose a healthy snack more often after experiencing an intelligence threat. In Experiment 3 most participants chose a healthy snack except for the threatened dieters who chose the unhealthy snack more often in the private condition (ostensibly without the experimenter’s knowledge). The surveys supported the finding that men and women make judgments about others on the basis of type of food they select versus amount consumed. Overall, the present research suggests that if people have the choice of using type
versus amount of food as an impression-management strategy, they will choose type. As well, dieters at times use different impression-management techniques than non-dieters do.
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Chapter 1

Introduction

Each person makes approximately 200 decisions about food each day (Wansink & Sobal, 2007). Given such an overwhelming number of food choices, how do we decide what and how much to eat at a given moment? There are many factors, such as availability and taste preferences that influence food selection. The mere presence of others can influence what we eat and how much we eat. For example, people tend to eat 30–50% more when having a meal with a group of people (social facilitation) (e.g., Bellisle, Dalix, & de Castro, 1999; Patel & Schlundt, 2001; see Herman, 2015, for a recent review). As well, when people are in the presence of others who consistently eat a lot, they too will eat a lot; and when people are in the presence of others who consistently eat only a little, they too will eat only a little (modeling behaviour) (e.g., Nisbett & Storms, 1974). Moreover, when in the presence of others, one is highly motivated to construct a positive public self and please one’s audience in order to gain rewards (Baumeister, 1982), and there are various ways in which people can go about doing so. For example, when eating with others, people can emit certain verbal or physical gestures, such as being polite and smiling. If one is trying to convey a positive impression to others while eating a meal, one can choose specific foods or eat a certain amount of food to foster a specific impression (see Vartanian, 2015, and Vartanian, Herman, & Polivy, 2007, for reviews). It is assumed that people use food selection in order to convey a desired impression (Vartanian, 2015; Vartanian et al., 2007); however, most previous research has focused on the amount of food that people eat in order to convey a desired impression (Bock & Kanarek, 1995; Chaiken & Pliner, 1987) and has failed to examine whether food selection (e.g., “healthy” or “unhealthy”) is actually used to try to
create a specific impression. The present series of studies will examine if in fact impression-management motives influence the type of food that is chosen.

Conveying a specific impression to others can be vital in certain situations (Schlenker, 1980). People tend to want to be viewed positively and want others to like them whether they are applying for a job, trying to get promoted, meeting someone for the first time, or going on a date. In addition, they are more concerned with making a good impression on strangers and less familiar people than on their friends (Tice, Butler, Muraven, & Stillwell, 1995). People learn to use specific verbal and physical cues to convey an impression (Schlenker, 1980). In some situations in which one wants to make a positive impression, food will be present and eating will occur. Examples of such situations include being on a first date or attending a business lunch. People could use food selection and eat a certain amount of food in order to convey a specific impression, but do people actually use food selection in order to convey a desired impression? Moreover, do people use both food selection and intake quantity in a given situation to convey a desired impression or do they focus on only one aspect of the eating scenario, either selecting a type of food or eating a specific amount of food? The present series of studies will attempt to answer these questions in order to determine whether people use food selection as an impression-management strategy and whether people use one type of impression-management technique (i.e., choosing a certain type of food or consuming a specific amount) or use more than one type of technique (i.e., choosing a certain type of food and consuming a specific amount of it) in a given situation.

Conveying a desired impression is considered a fundamental interpersonal process (unconscious or conscious) that is highly important to most people (Baumeister, 1982). It is a
goal-directed process in which people, by regulating or controlling their own specific behaviours, attempt to influence how others perceive them (Leary & Kowalski, 1990). Conveying the desired impression increases the chances that one will obtain the desired outcome (i.e., making the other person see you as you wish to be perceived) (see Leary & Kowalski, 1990, for a review). According to Schlenker (1980) there are two main motives that drive impression-management behaviours: 1) instrumental: we have a desire to influence others in order to gain rewards and 2) expressive: we present ourselves in a manner that is consistent with an image that we would like to convey. If someone is motivated to impress others, then he or she will engage in specific behaviours determined by how one thinks they are currently regarded and how one would like to be perceived (Leary & Kowalski, 1990).

Leary (1999) proposes that impression-management involves two discrete processes: 1) impression motivation: the desire to create a specific impression in others’ minds and 2) impression construction: if one is motivated to create a specific impression, one will emit specific overt behaviours in order to affect others’ impression of oneself (Leary & Kowalski, 1990). These behaviours may be categorized as defensive/avoidance or assertive/active behaviours.

Consumption Stereotypes and Impression Management

Food-consumption stereotypes are schemas that pertain to food. More specifically, consumption stereotypes are judgments of people based on their food intake (Vartanian et al., 2007). These judgments are based on food selection (e.g., eating a salad versus a steak) and quantity of food consumed, (e.g., eating a smaller versus a larger portion of a particular food). For instance, eating larger portions is viewed as more masculine, whereas eating smaller portions is viewed as more feminine (Chaiken & Pliner, 1987). Other examples of
consumption stereotypes include: those who eat so-called “healthy” foods are perceived positively and viewed as more feminine, polite, physically attractive, intelligent, calm, self-controlled, and moral compared to those who eat “unhealthy” foods; and those who eat “unhealthy” foods are rated as more masculine, impolite, outgoing, unintelligent, and unattractive compared to those who eat “healthy” foods (see Vartanian et al., 2007, for a review). Those who eat foods lower in fat are perceived as healthier, smaller in body size, more active, less sociable, and highly-strung compared to those who eat foods higher in fat (Mooney, DeTore, & Malloy, 1994; Oakes & Slotterback, 2004). As for quantity of food consumed, those who eat smaller meals are perceived as thinner and more feminine than are those who eat larger portions. Moreover, those who eat large portions are perceived as unattractive, heavy, and less feminine (Vartanian et al., 2007). These consumption stereotypes have been integrated into people’s worldviews and may be internalized. When one is eating in the presence of others and trying to create a specific impression, one will (or should) consider these food-consumption stereotypes, and eat accordingly.

Numerous studies have found that being in a social situation can influence food intake regardless of one’s hunger and satiety (Goldman, Herman, & Polivy, 1991; Herman & Polivy, 2005, 2008). For instance, people alter their eating behaviour in accordance with the aforementioned specific food-consumption stereotypes when in the presence of others in order to convey a desired impression (see Herman, Roth, & Polivy, 2003, or Vartanian et al., 2007, for a review). In North American society, this desired persona, especially for females, is that of a non-overindulgent, thin, and physically attractive person. Females eat less when in the presence of desirable males, so as to create a positive impression and make themselves
appear desirable, more feminine, and less masculine (Chaiken & Pliner, 1989). However, the type of food selected in such situations has not been studied.

Chaiken and Pliner (1987) asked university students to rate a fictitious male or female who ate either two small meals or two large meals. The fictitious females in the small-meal conditions were rated as more feminine (and less masculine) compared to their counterparts in the large-meal condition. Further, Mori, Chaiken and Pliner (1987), in their first study, found that female participants ate less when eating with a male than with a female eating partner and ate significantly less when their male partner was desirable than when he was undesirable. Pliner and Chaiken (1990) replicated these findings and found that females ate fewer crackers when eating with a male partner and ate significantly less when the male partner was desirable. The second study by Pliner and Chaiken (1990) confirmed that females eat less when eating with males in order to appear socially desirable and feminine. In addition, Bock and Kanarek (1995) found that as meal size increased - targets were depicted as eating two small, two medium, or two large meals - both female and male targets were rated as less feminine and more masculine. Vartanian (2000) had participants rate a female who ate either a smaller or larger meal and also found that those who ate the smaller meal were rated as more feminine and less masculine than were those who ate the larger meal. The aforementioned studies did not examine type of food as a variable; participants were provided with only one type of food (peanuts, M&Ms, or crackers). However, we hypothesize that the type of food plays an important role in conveying a desired impression. One study by Basow and Kobrynowicz (1993) did include type of food as a variable. More specifically, they examined how size of meal and type of food influenced raters’ perceptions of the targets. They found that females who ate a smaller “feminine” meal (a salad) were
rated as more socially appealing compared to those who ate a larger “masculine” meal
(meatball sandwich). However, even though they included type of food as a variable, it was
confounded with amount of food. Accordingly, different types of food, controlling for
amount, will be used in the present research so that “healthy” and “unhealthy” foods are both
represented.

Mori et al. (1987) threatened or enhanced the femininity of female participants and
then gave them the opportunity to eat peanuts and M&Ms in the presence of a socially
desirable male who was either aware or not aware of the participants’ femininity status. The
concept behind this procedure is that one will feel self-conscious and need to cope with the
threat to one’s identity, and the means of doing so may involve the use of verbal explanations
or behavioural tactics to minimize or ameliorate one’s new negative image (Schlenker,
1980). In this particular scenario, the females whose femininity had been threatened had the
opportunity to use a behavioural tactic, impression management, to minimize or eliminate
their negative image: they could eat less or more of the available food. By eating only a small
amount of the available food, the female participants would appear more feminine. Females
who ate with males who were aware that the females were “low” in femininity ate fewer
peanuts and M&Ms than did females whose partners were aware that they were “high” in
femininity. When their partners were unaware of the participants’ femininity status,
participants who knew themselves to be “high” in femininity ate less than did the participants
who were “low” in femininity. The participants whose femininity was “high” (but whose
partners were unaware) presumably wanted to express this high femininity status to their
partner and therefore ate less. Mori et al. (1987) found that females whose femininity had
been threatened ate less when in the presence of a desirable male, presumably in order to
“restore” their femininity. The present series of studies will use a similar procedure. Female participants will experience various threats to their identity so that we may explore how females use eating behaviour tactics to convey a specific identity. A confederate will not be used in the studies for two reasons: 1) if the confederate were to not eat at all, then the confederate would be a non-eating observer, thereby inhibiting the eating of the participant (Conger, Conger, Costanzo, Wright, & Matter, 1980; Herman et al., 2003) and 2) if the confederate were to eat, then the confederate would in effect become a model, indicating to the participant how much one should eat in this particular situation (Herman et al., 2003). To avoid having a confederate influence the participants’ eating, the studies were designed without a confederate. Rather, the experimenter provided (false) feedback to the participants regarding different aspects of their identity (intelligence, social appeal, or femininity). The participants knew that the experimenter was aware of their identity, and so we assumed that the participants would alter their eating behaviour to convey a certain impression to the experimenter. We hoped that they would attempt to impress the experimenter by emitting certain behaviours in order to restore their image. This technique, generalized image repair (Baumeister, 1982), occurs when damage to one’s public presentation is repaired with a different audience.

**Dietary Restraint**

A second variable that has not been examined in the impression-management literature is dietary restraint. It is assumed that all eaters respond in the same manner in impression-management situations in which there is an environmental indicator of an appropriate type of food and amount of food intake (Herman & Polivy, 2008; Herman et al., 2003). Eaters may be categorized as restrained (chronic dieters) or unrestrained (non-dieters).
Restrained eaters are more concerned with their body weight and shape and ignore internal
signals of hunger in order to adhere to a diet, and they tend to experience weight fluctuations
as they attempt to suppress their weight compared to unrestrained eaters (Herman & Mack,
1975; Polivy & Herman, 1995). Restrained and unrestrained eaters respond in the same
manner to normative food cues, such as modeling, but they respond differently to sensory
food cues, such smell and taste (Herman & Polivy, 2008). As was previously mentioned, it
has been assumed that restrained and unrestrained eaters respond in the same manner in
impression-management situations; however, dietary restraint has not been examined in such
situations. Because restrained eaters are more concerned with their body weight and shape
and which foods they eat, they may respond differently in eating situations in which they are
concerned with conveying a desired impression. Vartanian (2000, 2004) found that restrained
eaters (unlike unrestrained eaters) are more likely to judge female eaters who eat smaller
meals as being thinner and weighing less. Insofar as restrained and unrestrained eaters judge
female eaters differently, perhaps they have different food-consumption stereotypes. These
different stereotypes will be most likely to influence them when they are attempting to
convey a desired impression while eating. Therefore it is hypothesized that restrained and
unrestrained eaters may respond differently in impression-management eating situations.
More specifically, it is hypothesized that restrained eaters will eat smaller portions than will
unrestrained eaters in an attempt to appear more socially desirable. In each of the studies
dietary restraint will be assessed and restrained and unrestrained eaters will be compared in
order to determine if in fact they do respond differently when trying to convey a desired
impression in an eating situation.

Overview of the Present Research
The literature demonstrates that people make judgments about others based on food type selected and amount of food eaten. As well, people utilize amount of food eaten as an impression-management technique. This series of studies was designed to provide an entry into understanding two venues of impression management (food choice and intake amount) through eating behaviour. More specifically, the purpose of the present series of studies was to examine under which conditions impression-management techniques, specifically food selection or amount of food eaten, would be employed after experiencing ego threats. A secondary goal was to determine whether female restrained eaters (dieters) and unrestrained eaters (non-dieters) utilized the same impression-management techniques. A series of three experimental studies and two surveys were conducted in order to examine these aims. The aim of Experiment 1 was to determine whether female participants altered how much they ate after eating a healthy or unhealthy snack as an impression-management strategy. A secondary aim was to explore whether restrained eaters (dieters) and unrestrained eaters (non-dieters) utilized different impression-management strategies. The purpose of Experiment 2 was to replicate the findings from Experiment 1 and examine food selection without constraints set by the experimenter. Experiment 2 demonstrated that both restrained and unrestrained eaters used food type as an impression-management strategy. Two surveys conducted assessed whether a female target was evaluated based on food type or amount of food eaten. Lastly, Experiment 3 examined whether the strategies utilized were in fact impression-management strategies by including both public and private conditions. This investigation, it was hoped, would allow us to approach an answer to the question of whether women use both food type and amount consumed or just one technique when trying to convey a desired impression. If, in fact, women choose a healthy snack and then proceed to eat a smaller or larger amount of
second unhealthy food when trying to create a desired impression, then perhaps we will be in a position to explore manipulations or interventions that will deter people from eating large portions of unhealthy foods and encourage people to make healthier food choices.

Because most of the research on impression-management and eating has focused on women, the current research included only female participants.

**Experiment 1**

The first study of the series examined whether eating a healthy or unhealthy snack after a threat to one’s self-esteem would alter the amount of a second (unhealthy) snack eaten as an impression-management technique. The study was designed such that the public image of the threatened females would be compromised and therefore they would be motivated to restore their image using impression-management techniques when tasting and rating food. Eating the healthy or unhealthy snack was considered an initial impression-management act (healthy snack = positive, unhealthy snack = negative) and it was predicted that the initial impression-management act (eating a healthy, unhealthy, or no snack) would influence the amount of a second (unhealthy) snack eaten as a second impression-management technique. Female participants were randomly assigned to experimental conditions that threatened (or not) their intelligence and social status. Threatened females were told that a “second” participant perceived them as low in intelligence and social appeal, whereas those in the No threat condition were given no feedback. The female participants were also randomly assigned to one of three snack conditions in which they (a) ate a healthy snack (carrots), (b) ate an unhealthy snack (chips), or (c) were given no snack to eat. The different snacks were offered to the participants in a manner designed to make the participant believe that she was making the choice as to which snack she would taste and rate. The different snack types were
intended to represent “healthy” and “unhealthy” choices. The reason for utilizing the first two snack-type conditions was so that we would be able to control whether the participants felt that they were eating either a healthy or unhealthy snack. The snack amount provided was of a typical snack size and therefore intake was constrained. Participants were then asked to taste and rate four kinds of cookies. The cookie phase allowed participants to eat *ad lib*, after eating a healthy or unhealthy snack or no snack, so that we could examine whether type of initial snack eaten affected the amount of cookies eaten. The experimenter, a stranger, was aware of the negative feedback as well as which snack was chosen. The independent variables were threat condition and assigned snack condition and the dependent variable was amount of cookies eaten in grams. Dietary restraint was measured in order to determine whether dietary restraint influenced implementation of impression-management techniques, specifically amount of cookies eaten. Lastly, mood and current self-esteem were measured to examine any group differences.

**Hypotheses**

1. A) The threatened females who ate an unhealthy snack (chips) would eat fewer cookies afterwards in order to restore their image compared to those who ate a healthy snack (carrots), who would have already restored their image by eating a healthy item. The threatened participants who ate a healthy snack would have conveyed a positive impression, and therefore could eat as many cookies as they wanted. Threatened participants who ate an unhealthy snack would not (yet) have conveyed a positive impression, and therefore were expected to eat fewer cookies, in order to create a positive impression.
B) Those who were not threatened should not feel as great a need to convey a positive impression and should therefore eat a similar amount of cookies regardless of the snack that they previously ate.

2. Although it is unclear whether restrained and unrestrained eaters use different impression-management techniques during eating situations, we predicted that restrained eaters would use impression-management techniques more often than would unrestrained eaters and would eat a smaller amount of food in order to convey a desired impression after experiencing a threat to one’s self than would threatened unrestrained eaters.

3. Threatened participants should report lower current self-esteem and mood in comparison to those who were not threatened.

Methods

Participants

One-hundred and seventy-seven female University of Toronto undergraduate students were given course credit toward their Introduction to Psychology course or $10.00 for participating. Participants were required to speak, understand, and write English. They were unable to participate if they had any dietary restrictions due to allergies. The participants averaged 19 years of age (range 17-32) and most of them (74%) were in their first year of university. Thirty-four percent of the participants indicated that they were of Caucasian descent, 34% indicated that they were of East Asian descent, 11% indicated that they were of South Asian descent, 6% indicated that they were of Middle Eastern descent, 5.6% indicated that they were of Other descent, 3% indicated that they were of African-American descent, 1.7% indicated that they were of Hispanic descent, and 1.7% indicated that they were of First
Nations descent. Participants who scored 14 or below on the Restraint Scale (Herman & Polivy, 1980) were categorized as unrestrained eaters and those who scored 15 or above on the scale were categorized as restrained eaters.

**Materials**

A battery of standard and widely used measures was used. Participants were first asked to sign a consent (see Appendix A) form indicating that they agreed to participate in the study.

*Background variables* were assessed using a demographic sheet (see Appendix B) that participants completed, which provided the researchers with information on the participants’ age, ethnicity, year in university, and hobbies. After completing the demographic sheet, the participants were all given a demographic sheet that they thought a second participant filled out (but which was actually prepared by the experimenter). Participants were asked to evaluate the second participant by answering various questions (see Appendix C) based on what the second participant allegedly wrote on the demographic sheet.

*Snack Ratings.* The snack and cookies were rated using a taste-rating questionnaire (see Appendix D). Participants responded from 1 (Not at All) to 5 (Very) on six items: salty, sweet, crunchy, bitter, sour, and good-tasting.

*State self-esteem* was measured using The State Self-Esteem Scale (Heatherton & Polivy, 1991) (see Appendix E) a 20-item questionnaire. Participants respond from 1 (Not at all) to 5 (Extremely) as to how they are feeling at that moment. Items include: “*I feel concerned about the impression I am making*” and “*I am pleased with my appearance right now*”. A high score on the scale indicates a high current level of self-esteem.
Current Mood. The PANAS-X Scale (Watson & Clark, 1994) (see Appendix F) measured current mood level. Participants responded to 36 emotion words, which were listed in Likert format (1 = “very slightly or not at all”; 5 = “extremely”). Participants assigned a number to each emotion indicating how they felt at that particular moment. Examples of emotions were: relaxed, jittery, hungry, embarrassed, full, and proud. A high score on the scale indicates a high level of emotion.

Dietary restraint. The Restraint Scale (Herman & Polivy, 1980) (see Appendix G) was used to assess dietary restraint. The measure consists of ten items assessing weight fluctuations and one’s tendency to think about weight and eating behaviour. Higher scores on the scale indicate greater dietary restraint. Those who are identified as restrained (score = 15 or above) and unrestrained (score = 14 or below) were compared in order to determine if eating behaviour differs as a function of dietary restraint.

Re-consent (see Appendix H) was required after participants were debriefed (see Appendix I) about the true nature of the study.

Procedure

Ethics approval for the experiment was granted by the University of Toronto Social Sciences, Humanities, and Education Research Ethics Review Board. Participants were instructed not to eat for three hours before arriving at the lab. When they arrived at the lab they were greeted by a female experimenter and shown to the testing room. The study took approximately one hour for each participant and participants were run individually. Participants were told that the study was examining how different people evaluate various modalities, including how people rate personality traits of others and sensory stimuli. Participants were asked to read and sign the consent form (see Appendix A)
if they agreed to participate, which all participants did. Participants were then asked to
complete the demographic sheet (see Appendix B). Each participant was told that this
demographic sheet would be given to a second participant so that the second participant
could rate her, although unbeknownst to the participant, there was no second participant.
Participants were all given the same previously filled out demographic sheet, which they
thought had been filled out by the second participant (but which was actually prepared by the
experimenter). Each participant was asked to evaluate the second participant (see Appendix
C) based on what the second participant allegedly wrote on the demographic sheet. This
procedure allowed the experimenter to give the participant feedback on what the alleged
second participant thought of her. Participants were randomly assigned to one of two threat
conditions: 1) No Threat (control) or 2) Threat condition. After participants completed the
evaluation sheet those in the No Threat condition were given no feedback, whereas those in
the Threat condition they were told, “The second participant evaluated you from the
information you wrote down and they got the impression that you are awkward in social
situations and don’t make friends easily. As well, that your intelligence is slightly below the
typical University of Toronto student’s.” The Threat condition was designed to induce
feelings of embarrassment and lowered current self-esteem.

Participants were then told that the next task was to rate a sensory modality.
Participants were randomly assigned to one of three snack conditions: 1) Healthy snack, 2)
Unhealthy Snack, or 3) No snack (control). If participants were assigned to the Healthy snack
condition they were told, “We have carrots and chips leftover from a meeting. The carrots are
really fresh and tasty but the chips are a bit stale. Which snack would you prefer?” If
participants were assigned to the Unhealthy snack condition they were asked, “We have
chips and carrots leftover from a meeting. We just opened the bag of chips and they are nice and crunchy but the carrots are a bit dry. Which snack would you prefer?” Participants were then given the snack that they chose and given five minutes to taste and rate it. The snack was served on a salad plate and each participant was given a plate full of the snack. If participants were in the No snack condition, they were not given a snack to eat. All participants were then asked to complete the State Self-Esteem Scale (Heatherton & Polivy, 1991) (see Appendix E) and the PANAS-X mood scale (Watson & Clark, 1994) (see Appendix F). The next task was to rate a second sensory modality. Participants were asked to taste and rate four types of cookies. The cookies were bite-sized cookies that were made by measuring two teaspoons of cookie dough. The tray of cookies was weighed before and after the participants ate in order to determine how much the participants ate. Participants were given ten minutes to taste and rate the cookies using the rating questionnaires (see Appendix D) and the participants were instructed by the experimenter to “eat as much as you like.” Participants were then asked to complete the Restraint Scale (Herman & Polivy, 1980) (see Appendix G).

Lastly, participants were debriefed about the true nature of the study (see Appendix I). Participants were asked to sign a re-consent form (see Appendix H) if they agreed to their data being used now that they knew the true nature of the study. All the participants signed the re-consent form.

Results

Means, standard deviations, and ranges were calculated for the participants’ demographic information, and for snack and cookie intake, which are shown in Table 1.
We hypothesized that the threatened females who ate an unhealthy snack (chips) would eat fewer cookies afterwards in order to restore their image compared to threatened females who ate a healthy snack (carrots). Those who were not threatened should eat a similar amount of cookies regardless of the snack that they previously ate because they should not feel as great a need to convey a positive impression. We also predicted that restrained eaters would use eating-based impression-management techniques more often than would unrestrained eaters and would eat a smaller amount of food in order to convey a desired impression after experiencing a threat to one’s self than would threatened unrestrained eaters. Lastly, we hypothesized that threatened participants should report lower current self-esteem and mood in comparison to those who were not threatened.

**Snack Condition**

The participants were randomly assigned to one of three snack conditions (Healthy, Unhealthy, or No snack). It was assumed that the participants would select the type of snack to which they were assigned (and nudged); however, to our surprise, this was not always the case. Due to this unanticipated occurrence, before the main analyses were conducted, preliminary analyses were conducted examining self-selected snack. Table 2 displays how

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>19.04</td>
<td>1.96</td>
<td>17-32</td>
<td>176</td>
</tr>
<tr>
<td>Year in University</td>
<td>1.41</td>
<td>.821</td>
<td>1-5</td>
<td>177</td>
</tr>
<tr>
<td>Snack Intake (grams)</td>
<td>20.47</td>
<td>19.43</td>
<td>1–92.5</td>
<td>112</td>
</tr>
<tr>
<td>Cookie Intake (grams)</td>
<td>50.17</td>
<td>22.93</td>
<td>6-127.90</td>
<td>177</td>
</tr>
</tbody>
</table>
many participants in each threat condition were assigned to a snack condition and how many participants chose each type of snack.

Table 2. Number of participants who chose each type of snack according to threat condition.

<table>
<thead>
<tr>
<th>Assigned Snack</th>
<th>Chosen snack</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Healthy</td>
</tr>
<tr>
<td>No Threat Condition</td>
<td></td>
</tr>
<tr>
<td>Healthy (carrots)</td>
<td>23</td>
</tr>
<tr>
<td>$n = 29$</td>
<td></td>
</tr>
<tr>
<td>Unhealthy (chips)</td>
<td>3</td>
</tr>
<tr>
<td>$n = 28$</td>
<td></td>
</tr>
<tr>
<td>Threat Condition</td>
<td></td>
</tr>
<tr>
<td>Healthy Snack</td>
<td>22</td>
</tr>
<tr>
<td>$n = 27$</td>
<td></td>
</tr>
<tr>
<td>Unhealthy Snack</td>
<td>13</td>
</tr>
<tr>
<td>$n = 35$</td>
<td></td>
</tr>
</tbody>
</table>

Due to the high number of participants who failed to select their assigned snack, we conducted follow-up analyses in order to determine whether choosing an alternative snack differed as a function of threat condition. Specifically, two Chi-square tests were conducted to compare the threat conditions in which participants chose the “non-assigned” snack: 1) No threat condition and 2) Threat condition. There was no difference for the participants in the No threat condition in regards to selecting a non-assigned snack ($\chi^2 (1, N = 57) = .004$, ns). There was a statistically significant difference however in the Threat condition ($\chi^2 (1, N = 63) = 3.84, p < .05$). Those who experienced a threat were more likely to choose a non-assigned snack, whereas those who did not experience a threat were more likely to choose the assigned snack.

Separate analyses were conducted for restrained and unrestrained eaters in order to determine whether restraint level affected snack choice after experiencing a threat or no threat (see Tables 3 and 4).
Table 3. Number of unrestrained eaters according to threat condition who chose each type of snack.

<table>
<thead>
<tr>
<th>Unrestrained Eaters Assigned Snack</th>
<th>Chosen snack</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy (carrots) (n = 15)</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Unhealthy (chips) (n = 14)</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Threat Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Snack (n = 14)</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Unhealthy Snack (n = 20)</td>
<td>4</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 4. Number of restrained eaters according to threat condition who chose each type of snack.

<table>
<thead>
<tr>
<th>Restrained Eaters Assigned Snack</th>
<th>Chosen snack</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy (carrots) (n = 14)</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Unhealthy (chips) (n = 14)</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Threat Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Snack (n = 13)</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Unhealthy Snack (n = 15)</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

Separate chi-square analyses were conducted for the unrestrained and restrained eaters to compare how many chose a non-assigned snack in the threat conditions. There were no differences for the unrestrained eaters in the No threat condition \((\chi^2(1, N = 29) = 1.02, \text{ ns})\), the unrestrained eaters in the Threat condition \((\chi^2(1, N = 34) = .006, \text{ ns})\), and the restrained
eaters in the No threat condition ($\chi^2(1, N = 28) = 1.17, \text{ ns}$). There was a statistically significant difference for the restrained eaters in the Threat condition ($\chi^2(1, N = 28) = 10.15, \ p < .01$). Restrained eaters who were assigned to the unhealthy snack condition were more likely to choose a non-assigned (healthy) snack after experiencing a threat, whereas restrained eaters in No threat condition and unrestrained eaters were likely to stick to their assigned snack.

**Amount of Cookies Eaten**

Our first hypothesis was that the threatened females who ate an unhealthy snack (chips) would eat fewer cookies afterwards in order to restore their image compared to those who ate a healthy snack (carrots). Threatened participants who ate an unhealthy snack would not (yet) have conveyed a positive impression, and therefore were expected to eat fewer cookies, in order to create a positive impression. In addition, those who were not threatened should not feel as great a need to convey a positive impression and should therefore eat a similar amount of cookies regardless of the snack that they previously ate as they do not feel the need to convey a positive impression.

In order to test our hypothesis the data were analyzed by two-way analysis of variance (ANOVA) using threat condition (No threat (control) and Threat) and assigned snack condition (Healthy snack (carrots), Unhealthy snack (chips), and No snack (control) as the independent variables. The dependent variable was amount of cookies consumed in grams (see Table 5).
Table 5. Mean grams of cookies eaten in the threat and assigned snack conditions.

<table>
<thead>
<tr>
<th>Assigned Snack</th>
<th>No Threat</th>
<th>Threat Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy (carrots)</td>
<td>56.25</td>
<td>48.62</td>
</tr>
<tr>
<td></td>
<td>(22.14)</td>
<td>(22.82)</td>
</tr>
<tr>
<td></td>
<td>n = 29</td>
<td>n = 27</td>
</tr>
<tr>
<td>Unhealthy (chips)</td>
<td>56.85</td>
<td>49.65</td>
</tr>
<tr>
<td></td>
<td>(23.12)</td>
<td>(28.38)</td>
</tr>
<tr>
<td></td>
<td>n = 28</td>
<td>n = 35</td>
</tr>
<tr>
<td>No Snack</td>
<td>47.04</td>
<td>42.82</td>
</tr>
<tr>
<td></td>
<td>(19.49)</td>
<td>(17.54)</td>
</tr>
<tr>
<td></td>
<td>n = 32</td>
<td>n = 29</td>
</tr>
</tbody>
</table>

There was a marginally significant main effect of snack condition ($F(2, 171) = 2.39, p = .095$) and a marginally significant main effect of threat condition ($F(1, 171) = 3.431, p = .066$). The interaction was not significant ($F(2, 171) = .097, p = .908$).

In order to test our hypothesis the data were analyzed by two-way analysis of variance (ANOVA) using threat condition (No threat (control) and Threat) and self-selected snack condition (Healthy snack (carrots), Unhealthy snack (chips), and No snack (control)) as the independent variables. The dependent variable was amount of cookies consumed in grams (see Table 6).
Table 6. Mean grams of cookies eaten in the threat and self-selected snack conditions.

<table>
<thead>
<tr>
<th>Snack Chosen</th>
<th>No Threat</th>
<th>Threat Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy (carrots)</td>
<td>54.46</td>
<td>46.76</td>
</tr>
<tr>
<td></td>
<td>(21.73)</td>
<td>(23.53)</td>
</tr>
<tr>
<td></td>
<td>(n = 26)</td>
<td>(n = 35)</td>
</tr>
<tr>
<td>Unhealthy (chips)</td>
<td>57.86</td>
<td>55.53</td>
</tr>
<tr>
<td></td>
<td>(24.08)</td>
<td>(28.31)</td>
</tr>
<tr>
<td></td>
<td>(n = 28)</td>
<td>(n = 24)</td>
</tr>
<tr>
<td>No Snack</td>
<td>48.47</td>
<td>41.34</td>
</tr>
<tr>
<td></td>
<td>(19.43)</td>
<td>(18.25)</td>
</tr>
<tr>
<td></td>
<td>(n = 32)</td>
<td>(n = 32)</td>
</tr>
</tbody>
</table>

There was a significant main effect of snack condition \((F_{(2,171)} = 3.93, p = .02)\) and a marginally significant main effect of threat condition \((F_{(1,171)} = 2.81, p = .096)\). The interaction was not significant \((F_{(2,171)} = .23, p = .79)\). Post-hoc analyses using the Bonferroni correction post-hoc criterion revealed that there was a significant difference between those in the unhealthy snack condition and those in no-snack condition (mean difference = 11.89, \(p = .02\)). Those who selected chips ate more cookies than did those who did not eat a snack. As well, those who were threatened ate slightly less cookies than those who were not threatened.

**Dietary Restraint**
We hypothesized that restrained eaters would use impression-management techniques more often than would unrestrained eaters and would eat a smaller amount of food in order to convey a desired impression after experiencing a threat to the self than would threatened unrestrained eaters. Table 7 displays the amount of cookies consumed in grams according to threat and snack condition and dietary restraint.

Table 7. Mean grams of cookies eaten and cell sizes according to threat and snack condition and dietary restraint.

<table>
<thead>
<tr>
<th>Threat Condition</th>
<th>No Threat</th>
<th>Threat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snack Chosen</td>
<td>Healthy</td>
<td>Unhealthy</td>
</tr>
<tr>
<td>Unrestrained</td>
<td>60.47 (25.98)</td>
<td>55.84 (27.82)</td>
</tr>
<tr>
<td>N</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Restrained</td>
<td>46.26 (10.39)</td>
<td>59.38 (21.69)</td>
</tr>
<tr>
<td>N</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>

Unrestrained vs. Restrained Eaters. The data were analyzed using three-way analyses of variance (ANOVA) using threat condition, self-selected snack condition, and dietary restraint (2 x 3 x 2) as the independent variables. The dependent variable was amount of cookies consumed in grams (see Table 7). There was a significant main effect of threat condition ($F_{(1, 165)} = 4.01, p = .047$), there was a marginal significant main effect of snack chosen condition ($F_{(2, 165)} = 2.61, p = .076$), and there was significant three-way interaction of threat condition, snack chosen condition, and dietary restraint ($F_{(2, 165)} = 4.95, p = .008$).

The data were analyzed using separate two-way analyses of variance (ANOVA) for restrained and unrestrained eaters using threat condition (No threat (control) and Threat) and
self-selected snack type condition (Healthy snack (carrots), Unhealthy snack (chips), or No snack (control)) as the independent variables. The dependent variable was the amount of cookies consumed in grams (see Table 7).

For unrestrained eaters there was no significant main effect of threat condition \( (F_{(1, 85)} = .72, p = .40) \). There was a significant main effect of snack chosen \( (F_{(2, 85)} = 4.11, p = .02) \) and a marginally significant interaction effect of threat by snack chosen \( (F_{(2, 85)} = 2.77, p = .07) \). Bonferroni post-hoc tests revealed that unrestrained participants in the Unhealthy snack condition ate more cookies than did those in the No snack condition (mean difference = 16.73, \( p = .013 \)) regardless of threat condition. Unrestrained eaters ate more cookies after eating an unhealthy snack compared to no snack.

For restrained eaters there was a marginally significant main effect of threat condition \( (F_{(1, 80)} = 3.79, p = .055) \). There was no significant main effect of snack type chosen \( (F_{(1, 80)} = 3.79, p = .055) \) and there was no significant interaction \( (F_{(2, 80)} = 2.23, p = .12) \).

**Mood and Self-Esteem**

We assessed mood and self-esteem in order to determine if in fact the ego threat was threatening and predicted that the threatened participants would report lower mood and self-esteem compared to those who did not experience a threat. Mood and current self-esteem were measured before participants tasted and rated the cookies. Means, standard deviations, and ranges were calculated for the participants’ responses to the questionnaires, which are displayed in Table 8.
Table 8. Means, standard deviations, ranges, and sample sizes of responses to the questionnaires.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current self-esteem</td>
<td>68.24</td>
<td>14.57</td>
<td>33-100</td>
<td>173</td>
</tr>
<tr>
<td>Positive mood</td>
<td>17.98</td>
<td>6.05</td>
<td>8 – 34</td>
<td>171</td>
</tr>
<tr>
<td>Negative mood</td>
<td>12.88</td>
<td>4.87</td>
<td>8 – 30</td>
<td>176</td>
</tr>
</tbody>
</table>

The data were analyzed by two-way analysis of variance (ANOVA) using threat condition (No-threat (control) and Threat) and snack type condition chosen by the participants (Healthy snack (carrots), Unhealthy snack (chips), or No snack (control) as the independent variables. The dependent variables were the responses to the questionnaires. Only marginally significant and significant findings will be presented.

There was a marginally significant interaction (threat x snack) on the negative mood questionnaire ($F_{(2, 170)} = 2.35, p = .098$). For those in the No threat condition the participants who did not eat a snack (mean = 14.03) and those who ate an unhealthy snack (mean = 13.31) reported a worse mood compared to those who ate a healthy snack (mean = 10.96).

For those who experienced a threat the participants who chose an unhealthy snack (mean = 11.54) reported a less negative mood than did those in the other threat conditions (mean for healthy = 13.09 and mean for no snack = 13.69). Therefore for those who were not threatened selecting a healthy snack and for those who were threatened selecting an unhealthy snack caused them to feel slightly better.

There was a significant main effect of threat condition on the current self-esteem scale (means no threat = 65.23 and threat = 71.02) ($F_{(1, 167)} = 7.49, p = .007$). Surprisingly,
participants who experienced a threat reported higher self-esteem compared to participants who did not experience a threat.

**Discussion**

We hypothesized that the threatened females who ate an unhealthy snack (chips) would eat fewer cookies afterwards in order to restore their image than would those who ate a healthy snack (carrots), who would have already restored their image by eating a healthy item. Threatened participants who ate an unhealthy snack would not have (yet) conveyed a positive impression, and therefore were expected to eat fewer cookies, in order to create a positive impression. For those who were not threatened, we hypothesized that they should not feel as great a need to convey a positive impression and should therefore eat a similar amount of cookies regardless of the snack that they previously ate as they do not feel the need to convey a positive impression. In regards to dietary restraint, we predicted that restrained eaters would use impression-management techniques more than would unrestrained eaters and would eat a smaller amount of food in order to convey a desired impression after experiencing a threat to one’s self than would threatened unrestrained eaters.

Surprisingly, we found that threatened restrained eaters chose a healthy snack more often than an unhealthy snack, despite being prodded to choose the assigned snack. It would appear that the threatened restrained eaters were motivated to go against the experimenter and use impression-management techniques (choosing a healthy snack) in order to convey a positive impression to the experimenter. As a result, when restrained eaters experienced a threat to their self-esteem they were more likely to choose a healthy snack regardless of whether or not they were told the unhealthy snack was fresher. Choosing a healthy food conveys intelligence, femininity, attractiveness, and social appeal (see Vartanian, 2015;
Vartanian et al., 2007, for reviews). Threatened restrained eaters were told by a female undergraduate student that they were rated as below average on intelligence and social appeal and they then had the opportunity to compensate for their negative review. Defying the experimenter by choosing the healthy snack allowed them to negate the negative feedback and impress the experimenter with their “healthy” decision. Tice et al. (1995) found that people are more concerned and motivated to impress strangers rather than their friends. We assumed the restrained eaters were motivated to impress the present stranger (experimenter) who had a negative view of them.

Participants ate the least amount of cookies after eating no snack and the most after eating an unhealthy snack, contrary to the expectation that eating an unhealthy snack would provoke “compensation” in the form of eating fewer cookies. Perhaps once you have selected the unhealthy food, you cannot salvage your reputation and you might as well indulge and therefore continue to eat additional unhealthy foods. Those who have not had a snack and a prior opportunity to use an impression-management technique attempt to eat minimally. Eating minimally conveys femininity and social appeal (see Vartanian, 2015; Vartanian et al., 2007, for reviews).

When comparing restrained and unrestrained eaters, it was found that restrained eaters who experienced a threat and were offered an unhealthy snack, more often defied the experimenter and chose a healthy snack. Restrained eaters are more concerned with their body weight and shape and pay more attention to food than do unrestrained eaters (Herman & Mack, 1975; Polivy & Herman, 1995); thus we predicted that the threatened restrained eaters were more likely to use the snack condition as an opportunity to bolster their image to the experimenter. It appears that restrained and unrestrained eaters differed in their use of
impression-management techniques when trying to convey a desired impression. Restrained eaters used food type as an impression-management technique. Choosing the healthy snack was the first opportunity to bolster their image after the negative feedback. Neither restrained nor unrestrained eaters used amount eaten as an impression-management technique after the ego threat. However, the sample size was small making it difficult to interpret the data in regards to amount eaten.

In regards to mood, for those who experienced a threat, selecting an unhealthy snack resulted in a less negative mood compared to those who selected a healthy snack or did not eat a snack; thus selecting the unhealthy snack buffered against a negative mood. Perhaps selecting an unhealthy food helps improve one’s mood in the short-term.

**Limitations**

A limitation of Experiment 1 was the small sample size especially when comparing the restrained and unrestrained eaters. Because power is lacking interpretations about the data should be made with caution.

A second limitation was that participants in the Threat condition were threatened in two domains, the first being their intelligence and the second their social appeal. In the consumption-stereotype literature (see Vartanian et al., 2007, for a review), those who eat unhealthy foods are portrayed as fun and less intelligent, compared to those who eat healthy foods, who tend to be portrayed as boring and intelligent.

A third limitation of Experiment 1 was that the participants were given a small portion of the healthy and unhealthy snack and then given a second unhealthy snack to eat. Perhaps those who were given a larger portion of the healthy snack would consume a larger portion of the healthy snack and not proceed to eat a larger portion of the cookies.


Chapter 2

Experiment 2

In the first experiment, restrained eaters who experienced a threat and were offered (and were expected to select) an unhealthy snack more often chose a healthy snack. It was hypothesized that the restrained eaters who experienced an ego-threat felt embarrassed and attempted to restore their image by choosing the healthy food item as an impression-management technique.

In order to replicate the findings from Experiment 1 - restrained eaters choose carrots more often after experiencing an ego threat compared to non-threatened restrained eaters and unrestrained eaters who choose chips more often - a similar experiment was conducted. The second experiment was designed to address lingering issues: Do different types of ego threats (e.g., intelligence, femininity) similarly affect food choice? Do participants use amount of snack eaten as well as food type as an impression-management strategy?

Experiment 2 was designed to test whether restrained eaters who experienced an ego-threat would choose a healthy snack more often than an unhealthy snack in order to convey a positive impression to others (in this situation, the experimenter). Restrained eaters (chronic dieters) are more concerned with dieting, food intake, and their body weight and shape than are unrestrained eaters (Herman & Mack, 1975; Polivy & Herman, 1995). Due to these differences it was hypothesized that restrained and unrestrained eaters responded differently and used different techniques when attempting to restore their image in Experiment 1. An additional technique that participants can use to restore their image is choosing how much food to eat. Thus, food choice and amount of food consumed were included as dependent variables in the second experiment.
In the previous study, the Threat condition included a combined threat to one’s intelligence and social appeal. This may have been problematic because research has found that people are rated as intelligent when they eat healthy food items and socially appealing when they eat unhealthy food items. It may have been the case that participants were unsure whether they wanted to appear intelligent or socially appealing to the experimenter. Instead two different types of ego-threat conditions were included in the second experiment, along with a no-threat condition (no feedback). The two different types of ego threats were a threat to one’s intelligence and a threat to one’s femininity. The different types of threats were included in order to determine whether a specific threat to one aspect of a person’s image or just any type of ego threat would result in an attempt to restore one’s image by choosing a healthy snack. Past research has shown that eating less and choosing healthy food items are regarded as feminine (see Vartanian et al., 2007, for review). In addition, those who eat healthy food items are considered intelligent (see Vartanian et al., 2007, for a review), thus the two different types of threats (intelligence and femininity) were chosen to be included in Experiment 2.

Overall, the second experiment of the series examined how different types of threats influence eating behaviour and impression-management strategies. More specifically, the study tested whether different types of threats result in participants employing different impression-management strategies while eating, such as choosing a specific type of food (i.e., healthy or unhealthy) or eating a certain amount of food in order to convey a desired impression. Dietary restraint was included as an independent variable because Experiment 1 found that dieters respond differently after experiencing an ego threat; therefore, it was hypothesized that restraint level is a differentiating factor. For Experiment 2 participants
experienced one of two threat conditions (femininity and intelligence) or no threat (control condition) and then had the choice of eating a healthy (carrots) or unhealthy (chips) food. The dependent variables were type of food chosen and amount of food consumed. Measures for current mood and self-esteem were included to examine group differences.

**Hypotheses**

1A) Because restrained eaters are preoccupied with food and dieting and are probably more likely to internalize food-consumption stereotypes, they should be more likely to choose certain foods in order to convey a specific impression than would unrestrained eaters. More specifically, if restrained eaters’ intelligence and femininity are threatened, they would be more likely to choose a healthy snack (carrots) in order to restore their image and convey the image that they are feminine and/or intelligent than are (a) restrained eaters who have not experienced an ego threat or (b) unrestrained eaters threatened or not. As was found in the previous study, it was predicted that unrestrained eaters would not alter their food choice in an attempt to restore their image after experiencing threats.

1B) It was unclear whether type of ego threat would alter the restrained eaters’ responses, so the current study included separate intelligence and femininity threats.

2) In regards to amount of food consumed, eating a small amount of food is viewed as both feminine and intelligent (see Vartanian et al., 2007, for a review). Participants could choose to eat a small amount of food in order to convey the image that they are feminine and intelligent. Participants had the opportunity to restore their image after experiencing an ego threat by choosing a healthy or unhealthy snack. It was unclear whether participants would then eat less food after choosing a healthy or unhealthy snack in order to bolster the impression they attempted to portray through food choice. It was possible that those who
chose a healthy snack would then eat a small amount of food in order to sustain the impression that they are attempting to portray. It is also possible that they would eat a large amount of food because the choice of food alone was enough to restore their image. For those who chose an unhealthy snack, perhaps eating a small amount would convey the impression that they are feminine or intelligent (despite their having chosen an unhealthy food).

Method

Participants

One hundred female University of Toronto undergraduate students were given course credit toward their Introduction to Psychology course or $10.00 for participating. Participants were required to fluently speak, understand, and write English. They were disqualified from participating if they had any dietary restrictions due to allergies. The participants averaged 19 years of age (range 17-35 years old) and the majority of them (57%) were in their first year of university. Forty-seven percent of the participants indicated that they were of East Asian descent, 27% indicated that they were of Caucasian descent, 10% indicated that they were of South Asian descent, 6% indicated that they were of Middle Eastern descent, 4% indicated that they were of African-Canadian descent, and 9% indicated that they were of other/mixed decent. Participants who scored 14 or below on the Restraint Scale (Herman & Polivy, 1980) were categorized as unrestrained eaters \( n = 49 \) and those who scored 15 or above on the scale were categorized as restrained eaters \( n = 51 \).

Materials

A battery of standard and widely used measures was used. Participants were first asked to sign a consent form (see Appendix J) indicating they agreed to participate in the study.
Background variables were assessed using a demographic sheet (see Appendix B) that participants completed, which provided the researchers with information on the participants’ age, ethnicity, year in university, and hobbies. After completing the demographic sheet the participants were all given a demographic sheet that they thought a second participant had filled out (but which was actually prepared by the experimenter). Participants were asked to evaluate the second participant by answering various questions (see Appendix C) based on what the second participant allegedly wrote on the demographic sheet.

Snack Ratings. The snack was rated using a taste-rating questionnaire (see Appendix D). Participants responded from 1 (Not at All) to 5 (Very) on six items: salty, sweet, crunchy, bitter, sour, and good-tasting.

Current self-esteem was measured using The State Self-Esteem Scale (Heatherton & Polivy, 1991) (see Appendix E) a 20-item questionnaire. Participants responded from 1 (Not at all) to 5 (Extremely) as to how they are feeling at that moment. Items include: “I feel concerned about the impression I am making” and “I am pleased with my appearance right now”. A high score on the scale indicates a high level of current self-esteem.

Current Mood. The PANAS-X Scale (Watson & Clark, 1994) (see Appendix F) measured current mood level. Participants responded to 36 emotions words, which were listed in Likert format (1 = “very slightly or not at all”; 5 = “extremely”). Participants assigned a number to each emotion indicating how they felt at that particular moment. Examples of emotions were: relaxed, jittery, hungry, embarrassed, full, and proud. A high score on the scale indicates a high level of emotion.
**Dietary restraint.** The Restraint Scale (Herman & Polivy, 1980) (see Appendix G) was used to assess dietary restraint. The measure consists of ten items assessing one’s eating behaviour and weight fluctuations. Higher scores on the scale indicate great dietary restraint. Those who are identified as restrained (score 15 or above) and unrestrained (score 14 or below) were compared in order to determine if eating behaviour differs as a function of dietary restraint.

*Re-consent* (see Appendix H) was required after participants were debriefed on the true nature of the study (see Appendix K).

**Procedure**

Ethics approval for the experiment was granted by the University of Toronto Social Sciences, Humanities, and Education Research Ethics Review Board.

Participants were instructed not to eat for at least three hours before arriving at the lab. The study took approximately one hour for each participant and participants were run individually. Once the participant arrived at the lab, she was welcomed by the experimenter and shown to the testing room. The participant was asked to read and sign the consent form (see Appendix J) if she agreed to participate, which all participants did. The participant was told that the study was examining how different people evaluate different modalities, including interpersonal and sensory evaluations. The participant then filled out a demographic sheet (see Appendix B). She was told that her demographic sheet would be exchanged with that of a second participant in order to evaluate an interpersonal modality, although unbeknownst to the participant, there was no second participant. All participants were given the same demographic sheet, which they thought had been filled out by the second participant. They were then given an evaluation sheet and asked to evaluate the
second participant (see Appendix C). Participants were randomly assigned to one of three threat conditions: 1) No threat (control), 2) Intelligence threat condition, or 3) Femininity threat condition. After participants completed the evaluation sheet, those in the No threat condition were given no feedback, while those in the Intelligence threat condition they were told, “The second participant evaluated you from the information you wrote down and she got the impression that your intelligence is slightly below the typical University of Toronto student’s.” Those in the Femininity threat condition were told, “The second participant evaluated you from the information you wrote down and she got the impression that you are less feminine than is the typical University of Toronto student.” The threat condition was designed to induce feelings of embarrassment. The participant was then told that her next task was to rate a sensory modality. She was then asked if she wanted to taste and rate carrots or chips. The participant was then given the snack that she had chosen and given ten minutes to taste and rate it. The snack was served in a large bowl so that the participant could eat as much as she wanted. The bowl was measured before and after the participant ate in order to determine how many grams the participant ate. The participant was told, “Please taste and rate the snack. You can eat as much or as little as you would like.” She was then asked to fill out the PANAS-X scale (Watson & Clark, 1994) (see Appendix F), The State Self-Esteem Scale (Heatherton & Polivy, 1991) (see Appendix E), and then the Restraint Scale (Herman & Polivy, 1980) (see Appendix G).

Lastly, the participant was thanked for participating and debriefed about the true nature of the study (see Appendix K), and was asked to sign a re-consent form (see Appendix H) indicating that she knew the true purpose of the study and that she consented to her data
being used. All the participants signed the re-consent form. The participant was shown out of the lab.

**Results**

Our first hypothesis predicted that restrained eaters were more likely to choose certain foods (healthy items) in order to convey a specific impression after experiencing an ego threat than were unrestrained eaters and restrained eaters who experienced no threat. In regards to amount of food consumed, we did not make a prediction as to whether participants would then eat less food after choosing a healthy or unhealthy food in order to bolster the impression that they attempted to portray through food choice.

**Mood Ratings**

In order to determine if in fact the ego-threats were threatening, ratings of the participants’ current mood toward the end of the experiment was examined. Participants indicated from 1 (not at all) to 5 (extremely) how they felt at that particular moment. Only significant findings are presented. The positive and negative subscales of the PANAS-X were analyzed and there were no significant findings. Individual items, upset, irritated, and irritable, were combined and analyzed.
Table 9. Mood ratings for negative mood for unrestrained and restrained participants in each of the threat conditions.

<table>
<thead>
<tr>
<th>Negative Mood</th>
<th>Unrestrained</th>
<th>Restrained</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat</td>
<td>3.62</td>
<td>4.38</td>
</tr>
<tr>
<td></td>
<td>(.87)</td>
<td>(2.56)</td>
</tr>
<tr>
<td></td>
<td>n = 13</td>
<td>n = 21</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>5.56</td>
<td>5.47</td>
</tr>
<tr>
<td></td>
<td>(2.83)</td>
<td>(3.08)</td>
</tr>
<tr>
<td></td>
<td>n = 18</td>
<td>n = 15</td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>3.52</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>(.72)</td>
<td>(2.33)</td>
</tr>
<tr>
<td></td>
<td>n = 17</td>
<td>n = 15</td>
</tr>
</tbody>
</table>

Note. Participants rated their mood in Likert format (1 = “very slightly or not at all”; 5 = “extremely”).

A two-way analysis of variance was conducted with threat condition and restraint level as the independent variables and negative mood rating (upset, irritable, and irritated) as the dependent variable (see Table 9). There was a significant main effect of threat condition \(F(2, 93) = 5.49, p = .006\). There was no significant main effect of restraint level \(F(1, 93) = .67, p = .42\). There was no significant interaction effect of threat condition x restraint level \(F(2, 93) = .29, p = .75\). Post-hoc tests revealed a significant difference between No threat and Intelligence threat conditions (mean difference = 1.43, \(p = .04\)) and a significant difference between Intelligence threat and Femininity threat conditions (mean difference =
1.77, $p = .008$); thus, those in the Intelligence threat condition reported a greater negative mood than did those in the No threat condition and those in the Femininity threat condition.

Table 10. State self-esteem ratings for unrestrained and restrained eaters in the threat conditions.

<table>
<thead>
<tr>
<th>State Self-Esteem</th>
<th>Unrestrained</th>
<th>Restrained</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat</td>
<td>67.21</td>
<td>59.85</td>
</tr>
<tr>
<td></td>
<td>(17.14)</td>
<td>(12.69)</td>
</tr>
<tr>
<td></td>
<td>$n = 14$</td>
<td>$n = 20$</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>72.00</td>
<td>63.20</td>
</tr>
<tr>
<td></td>
<td>(12.60)</td>
<td>(10.65)</td>
</tr>
<tr>
<td></td>
<td>$n = 18$</td>
<td>$n = 15$</td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>73.71</td>
<td>63.79</td>
</tr>
<tr>
<td></td>
<td>(11.00)</td>
<td>(12.66)</td>
</tr>
<tr>
<td></td>
<td>$n = 17$</td>
<td>$n = 14$</td>
</tr>
</tbody>
</table>

A two-way analysis of variance was conducted with threat condition and restraint level as the independent variables and state self-esteem as the dependent variable (see Table 10). There is no main effect of threat condition ($F_{(2, 92)} = 1.47, p = .24$). There is a main effect of restraint level ($F_{(1, 92)} = 11.02, p = .001$). There is no significant interaction of threat x restraint ($F_{(2, 92)} = .08, p = .92$). Unrestrained eaters reported higher state self-esteem than did restrained eaters.

**Food Choice**
Results for number of participants according to each threat condition who chose carrots and chips is displayed in Table 11.

Table 11. Number of unrestrained and restrained eaters in each condition who chose carrots or chips.

<table>
<thead>
<tr>
<th></th>
<th>Carrots</th>
<th>Chips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestrained Eaters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Threat</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Restrained Eaters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Threat</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

Hypothesis 1 predicted that unrestrained eaters would choose different snacks after experiencing an ego threat than would restrained eaters. In order to determine whether the unrestrained and restrained eaters responded differently in regards to snack choice, separate analyses were conducted. When comparing only the unrestrained eaters in the different threat conditions, there is a significant difference between those in the different threat conditions ($\chi^2 (2, N = 49) = 6.59, p < .05$). Unrestrained eaters in the Intelligence threat condition chose a healthy snack more often than did those who experienced No threat or a Femininity threat. This finding was contrary to the predicted hypothesis as the unrestrained eaters did differ in their snack choice after experiencing a threat compared to not experiencing a threat.

In regards to restrained eaters, it was predicted that those who experienced a threat would choose a healthy snack more often than would those who experienced no threat. When comparing the restrained eaters in the different threat conditions, there was no significant
difference between those in the No threat, Intelligence threat, and Femininity threat conditions ($\chi^2 (2, N = 51) = 3.40, \text{ ns}$). In order to determine if the results from Experiment 1 were replicated restrained eaters in the No threat condition were compared to the restrained eaters who experienced a threat (intelligence and femininity conditions combined). There was no significant difference for restrained eaters in the No threat versus combined threat conditions in regards to snack choice ($\chi^2 (1, N = 51) = 2.86, \text{ ns}$). These findings are contrary to Hypothesis 1 (threatened restrained eaters would choose a healthy snack more often than would non-threatened restrained eaters); however, there is a trend indicating that threatened restrained eaters choose a healthy snack more often than do unrestrained eaters. The weakness of the effect for restrained eaters is partly due to the fact that even in the No threat condition, restrained eaters were somewhat more likely (43%) to choose the healthy snack than was the case for unrestrained eaters (29%).

Surprisingly, the unrestrained eaters who experienced an intelligence threat chose a healthy snack more often than an unhealthy snack. This finding was analyzed further: Unrestrained and restrained eaters in the No threat and Intelligence threat conditions were compared (two groups: no threat versus threat). When comparing those in the No threat condition with those in the Intelligence threat condition (combining restrained and unrestrained eaters) there was a significant difference ($\chi^2 (1, N = 68) = 7.23, p < .01$).

These results indicate that the participants who experienced an intelligence threat chose to taste and rate a healthy item (carrots) rather than an unhealthy item (chips) more often than the participants who experienced no threat did. Unrestrained eaters who experienced no threat or a femininity threat chose to taste and rate an unhealthy food item (chips) more often than the healthy item (carrots). The restrained eaters, on the other hand,
tended to choose to taste a healthy item (carrots) more often than an unhealthy item (chips) in both the Intelligence and Femininity threat conditions. Although it was not significant, the pattern of results suggests that the restrained eaters who experienced a threat (intelligence or femininity) chose to eat a healthy item rather than an unhealthy food item more than did restrained eaters who did not experience a threat.
### Ethnicity

Table 12. Number of participants of the different self-identified ethnicities in each condition.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Carrots</th>
<th>Chips</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Caucasians</td>
<td>Asians</td>
</tr>
<tr>
<td>Unrestrained</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Eaters</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>No Threat</td>
<td>1 African American</td>
<td>4 Asians</td>
</tr>
<tr>
<td></td>
<td>3 Caucasians</td>
<td>5 Asians</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>5 Asians</td>
<td>1 Middle Eastern</td>
</tr>
<tr>
<td></td>
<td>1 African American</td>
<td>1 Other</td>
</tr>
<tr>
<td></td>
<td>3 Other</td>
<td></td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>3 Caucasians</td>
<td>2 Caucasians</td>
</tr>
<tr>
<td></td>
<td>1 Asian</td>
<td>8 Asians</td>
</tr>
<tr>
<td></td>
<td>1 African</td>
<td>1 African American</td>
</tr>
<tr>
<td></td>
<td>3 Other</td>
<td>1 Other</td>
</tr>
<tr>
<td>Restrained</td>
<td>3 Caucasians</td>
<td>2 Caucasians</td>
</tr>
<tr>
<td>Eaters</td>
<td>6 Asians</td>
<td>9 Asians</td>
</tr>
<tr>
<td>No Threat</td>
<td>1 Middle Eastern</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Middle Eastern</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>5 Caucasians</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 Asians</td>
<td>4 Asians</td>
</tr>
<tr>
<td></td>
<td>2 Mixed</td>
<td></td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>3 Caucasians</td>
<td>1 Caucasian</td>
</tr>
<tr>
<td></td>
<td>4 Asians</td>
<td>5 Asians</td>
</tr>
<tr>
<td></td>
<td>2 Middle Eastern</td>
<td></td>
</tr>
</tbody>
</table>

The study was conducted at a Canadian university and the majority of participants self-identified as Asian. This is an unusually high proportion in comparison to similar studies conducted in the same laboratory. We therefore examined ethnicity as a differentiating factor. We first determined whether the various ethnicities were equally distributed across the different conditions (see Table 12). Overall, amongst the unrestrained eaters there are 13 Caucasians and 25 Asians. Amongst the restrained eaters there are 14 Caucasians and 32 Asians. We then examined whether any differences in regards to choice were evident for Caucasians and Asians. A chi-square was conducted examining how those identified as
Caucasian responded in regards to food choice. The Caucasians in the No threat condition were compared to the Caucasians in the threat conditions combined (intelligence and femininity) in order to determine whether they displayed different responses in regards to food choice depending on the condition they were assigned to. There was a significant difference between Caucasians in the No threat condition and threat conditions ($\chi^2 (1, N = 27) = 5.08, p < .05$) indicating that those who experienced a threat chose a healthy snack more often than did those who experienced no threat. Those identified as non-Caucasian were examined in order to determine if there was a difference in food choice between those who experienced no threat or a threat (combined intelligence and femininity). There was no significant difference ($\chi^2 (1, N = 73) = .95, \text{ns}$). Although the number of participants was small, the Caucasians responded differently (choosing a healthy snack) when experiencing a threat compared to no threat.

**Amount of Food Eaten**

Hypothesis 2 stated that in regards to amount of food consumed, it is unclear whether participants will eat less food after choosing a healthy or unhealthy food in order to bolster the impression that they attempted to portray through food choice. Perhaps those who choose a healthy snack will eat a small amount of food in order to sustain the impression that they are attempting to portray or those who chose an unhealthy snack will then eat a small amount in order to convey the impression that they are feminine or intelligent (despite having chosen an unhealthy food). It is also possible that eating a large amount of a healthy food item is judged as unhealthy. Perhaps food choice is not the only way to make a healthy choice and amount of food chosen should be examined to determine if participants are choosing an additional way to make a healthy food choice.
Table 13. Means and standard deviation of amount of food eaten in grams by unrestrained and restrained eaters in the threat conditions.

<table>
<thead>
<tr>
<th>Threat Condition</th>
<th>Unrestrained Eaters</th>
<th>Restrained Eaters</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat</td>
<td>39.01 (42.05)</td>
<td>33.31 (22.34)</td>
</tr>
<tr>
<td></td>
<td>n = 14</td>
<td>n = 21</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>44.56 (37.32)</td>
<td>32.42 (27.78)</td>
</tr>
<tr>
<td></td>
<td>n = 18</td>
<td>n = 15</td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>68.22 (154.89)</td>
<td>46.76 (36.13)</td>
</tr>
<tr>
<td></td>
<td>n = 16</td>
<td>n = 15</td>
</tr>
</tbody>
</table>

In order to determine whether there were differences in amount of snack eaten by unrestrained and restrained eaters in each of the threat conditions a two-way analysis of variance (ANOVA) was conducted with threat condition and restraint level as the independent variables and amount of food eaten in grams as the dependent variable (see Table 13). There was no main effect of threat condition ($F_{(2, 93)} = .91, p = .41$). There was no main effect of restraint ($F_{(1, 93)} = .87, p = .35$). The interaction (threat x restraint) was not significant ($F_{(2, 93)} = .11, p = .90$).
Table 14. Means and standard deviations of amount of carrots and chips eaten in grams by unrestrained and restrained eaters in each condition.

<table>
<thead>
<tr>
<th></th>
<th>Carrots</th>
<th>Chips</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unrestrained Eaters</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Threat</td>
<td>85.45</td>
<td>20.44</td>
</tr>
<tr>
<td>(52.79)</td>
<td>(16.82)</td>
<td></td>
</tr>
<tr>
<td>n = 4</td>
<td>n = 10</td>
<td></td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>55.03</td>
<td>23.62</td>
</tr>
<tr>
<td>(41.71)</td>
<td>(10.85)</td>
<td></td>
</tr>
<tr>
<td>n = 12</td>
<td>n = 6</td>
<td></td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>177.58</td>
<td>18.51</td>
</tr>
<tr>
<td>(260.41)</td>
<td>(12.81)</td>
<td></td>
</tr>
<tr>
<td>n = 5</td>
<td>n = 11</td>
<td></td>
</tr>
<tr>
<td><strong>Restrained Eaters</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Threat</td>
<td>49.71</td>
<td>21.01</td>
</tr>
<tr>
<td>(23.21)</td>
<td>(11.39)</td>
<td></td>
</tr>
<tr>
<td>n = 9</td>
<td>n = 12</td>
<td></td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>41.05</td>
<td>8.7</td>
</tr>
<tr>
<td>(27.46)</td>
<td>(8.09)</td>
<td></td>
</tr>
<tr>
<td>n = 11</td>
<td>n = 4</td>
<td></td>
</tr>
<tr>
<td>Femininity Threat</td>
<td>57.78</td>
<td>30.23</td>
</tr>
<tr>
<td>(40.27)</td>
<td>(22.68)</td>
<td></td>
</tr>
<tr>
<td>n = 9</td>
<td>n = 6</td>
<td></td>
</tr>
</tbody>
</table>

In order to examine how much of each snack was eaten by unrestrained and restrained eaters in each threat condition (see Table 14) separate analyses were conducted examining amount of food eaten of each type of snack by unrestrained and restrained eaters in the threat conditions. A two-way analysis of variance was conducted with threat condition and restraint level as the independent variables and amount of carrots eaten in grams as the dependent variable. These findings need to be examined with caution due to the small sample size.

For those who chose the healthy food item (carrots) there was a significant main effect of restraint ($F(1, 44) = 4.62, \ p = .04$): Restrained eaters ate fewer carrots than did unrestrained eaters. There was a marginal main effect of threat condition ($F(2, 44) = 2.74, \ p = .08$): Those in the Intelligence threat condition ate non-significantly less than did those in the no threat and Femininity threat conditions. There was no significant interaction effect for threat condition and restraint level ($F(2, 44) = 1.61, \ p = .21$).
There was one unrestrained eater in the femininity threat condition who chose carrots and ate 642.6 grams of carrots. When that participant was removed from the analysis, the mean amount of grams eaten by the other four participants in that condition was 61.33 (17.86) grams. The data were analyzed again without the deviant participant (two-way analysis of variance with threat condition and restraint level as the independent variables and amount of carrots eaten in grams as the dependent variable) and there were no significant main effects or a significant interaction. For threat condition, $F_{(2, 43)} = 1.24, p = .299$. For restraint level, $F_{(1, 43)} = 2.55, p = .117$. For the interaction of threat condition x restraint level, $F_{(2, 43)} = .62, p = .55$.

A two-way analysis of variance with threat condition and restraint level as the independent variables and amount of chips consumed in grams as the dependent variable was conducted in order to determine how many grams of chips were eaten in each condition. For those who chose the unhealthy food item (chips) there were no significant main effects. For the threat condition, $F_{(2, 43)} = .97, p = .39$ and for the restraint condition, $F_{(1, 43)} = .04, p = .85$. There was an almost significant interaction effect for threat condition x restraint level ($F_{(2, 43)} = 2.53, p = .09$). Closer examination revealed that the restrained eaters who experienced an intelligence threat and then chose chips ate less than did the participants in the other five conditions. Thus, the restrained eaters who experienced an intelligence threat appear to be making a healthy food decision by eating less of the unhealthy snack.

**Discussion**

Hypothesis 1A predicted that restrained eaters who experienced a threat would be more likely to choose to eat a healthy food item than would unrestrained eaters and restrained eaters who experienced no threat. Restrained eaters who experienced an ego threat (their
intelligence or their femininity) and who then were given the choice of carrots or chips chose the carrots non-significantly more often than did restrained eaters who did not experience an ego threat. Surprisingly, unrestrained participants who experienced an intelligence threat chose carrots more often than did unrestrained participants who experienced no threat or a femininity threat. Participants (unrestrained and restrained eaters) who experienced an intelligence threat chose carrots more often than did those who experienced no threat. We infer that women who experience an intelligence threat are choosing a healthy snack in order to convey a positive impression or to restore their image. We also infer that for university students intelligence is an important part of one’s identity and it is important to convey the impression that one is intelligent. One might speculate that for non-dieters femininity is not as vital as it is for chronic dieters, so when they experienced a threat to their femininity they did not choose the carrots but rather the chips more often. The dieters attempted to restore their image after experiencing a threat to either their intelligence or their femininity as both of these characteristics are important to them. The current study differentiated between types of ego threats and found that different types of threats influence restrained and unrestrained eaters in different ways (hypothesis 1B). It is important to examine how different types of threats influence eating behaviours. Pliner, Rizvi, and Remick (2009) found that restrained eaters when competing with others were significantly more likely to choose a healthier, more nutritious lasagna after a threat to their creativity, social sensitivity, and cognitive performance compared to non-threatened restrained eaters. For the unrestrained eaters, those who were threatened were non-significantly more likely to choose the healthier lasagna compared to those who were not threatened.
In the present study, the participants in the Intelligence threat condition reported a more negative mood (upset, irritable, and irritated) than did the participants in the No threat and Femininity threat conditions. Perhaps those in the Femininity threat condition did not believe or did not care about the threat to their femininity. This blasé reaction could explain why those in the Femininity threat condition did not respond in the same manner as did those participants in the Intelligence threat condition in regards to snack choice. It is unclear whether the Femininity threat condition is not as pertinent as the Intelligence threat because University of Toronto students are more concerned about their intelligence than about their femininity or because the femininity threat was simply not believable.

In Experiment 1 participants were assigned to either the Healthy snack (carrots) or Unhealthy snack (chips) condition. However, in Experiment 2 participants were free to choose whichever snack (healthy or unhealthy) they wanted to taste and rate. It is possible that when participants experienced an intelligence threat, both restrained and unrestrained eaters would like to attempt to restore their image by choosing the healthy snack. However, in Experiment 1 they were not given a free choice and only the restrained eaters defied their assigned condition and chose the healthy snack. Perhaps, then, the restrained eaters are more motivated to choose the healthy snack and are willing to defy the experimenter whereas the unrestrained eaters would like to choose the healthy snack but are not willing to defy the experimenter. Mori et al. (1987) found that female participants whose femininity has been threatened ate less when in the presence of a desirable male, presumably in order to “restore” their femininity. In the Mori et al. (1987) study, dietary restraint was not examined and the results appeared to apply to all types of (female) participants, as in the current study. The difference in the current study in comparison to Mori et al. (1987) is that our female
participants did not eat less after experiencing a femininity threat. Perhaps this is due to (a) the differences in the ethnicity of the participants, (b) the participants in the Mori et al. (1987) study not having a choice in food type or (c) because intelligence was more salient in the current study by being at the university with another female undergraduate student present. Perhaps the Femininity threat would have been stronger if their femininity was more salient. In Mori et al. (1987) the femininity of the participants was threatened in the presence of a male, whereas the participants in the present study experienced a threat in the presence of a female.

In regards to amount of food eaten (Hypothesis 2), it is unclear whether eating a large amount of a healthy food is considered healthy. As well, it is unclear whether eating a small amount of an unhealthy food item is considered healthy. The participants who experienced an intelligence threat more often chose carrots and ate non-significantly less than did those who experienced no threat or a femininity threat, although this finding disappears when the one unrestrained eater in the Femininity threat condition who ate a massive amount of carrots is removed from the analyses. The sample size is too small to make additional inferences about amount of food eaten.

Ethnicity was not considered a variable of importance when we developed our hypotheses; however, given the participants’ diverse ethnic background, ethnicity was examined. There were a very high proportion of participants of Asian descent. Participants of Caucasian descent who experienced a threat chose to eat a healthy snack more often than did those who experienced no threat, whereas non-Caucasians did not choose a different snack as a result of threat condition. In other words, Caucasians adhered more closely to our predictions than did Asians. The implications of ethnicity for this research may turn out to
profound, but a full examination of ethnicity and eating would take us far from our original ideas.

The participants made a public (with respect to the experimenter) decision as to which snack they wanted to taste and rate. It is unclear if participants would behave the same way (i.e., make the same choice) if they were in a private scenario and no one knew what they chose to eat. In other words, it is unclear whether the participants are attempting to restore their public image or protecting their private self-esteem. This issue should be studied further in order to determine why the participants are choosing certain foods. As well, it is unclear whether people assume that eating a large portion of a healthy snack is healthy because a healthy snack is being consumed or unhealthy because they are eating a large amount. With an unhealthy snack, is eating a small portion considered healthy because only a small portion is being consumed or unhealthy because an unhealthy food is being consumed
Chapter 3

Surveys

If you saw someone eating a large portion of carrots would you think to yourself, “She is healthy because she is eating so many carrots?” Or would you think, “She is unhealthy because she is eating a large portion of food?” Similarly, if you saw someone eating a small portion of chips would you think to yourself, “She is healthy because she is eating a small portion?” Or would you think, “She is unhealthy because she is eating chips?” When making judgments about others is the relevant piece of information the type of food or is it the portion size? In regards to type of food it has been found that those who eat healthy foods are rated as more feminine, likeable, attractive, and social appealing compared to those who eat unhealthy foods (see Vartanian et al., 2007 for a review). In addition, those who eat smaller portions are rated more positively than are those who eat larger portions (see Vartanian et al., 2007, for a review). How would one be rated if viewed as eating a large portion of a healthy food or a small portion of an unhealthy food?

We conducted two surveys involving male and female respondents to answer these interesting questions. The main objective of the surveys was to determine whether females are rated differently on various adjectives depending on the type and portion size of food they eat. The first survey identified which pictures of foods represented small and large portions and also identified which foods were rated as healthy and which ones were rated as unhealthy. The objective of the second survey was to determine whether someone eating a small or large portion of healthy and unhealthy foods conveyed a different impression depending on the type and/or portion size of snack. Because the previous two experiments included chips as representing the unhealthy food item and carrots as representing the healthy
food item, we included chips and carrots in the survey to determine how people rate these two food items. Grapes, chocolate, and crackers were also included for comparison purposes.

**Survey 1**

Survey 1 was designed in order to accomplish two goals: 1) identify which pictures displayed small and large portions of the different food items (carrots, chips, grapes, chocolate, and crackers) and 2) identify which foods are rated as healthy and which ones are rated as unhealthy.

**Methods**

**Participants**

A hundred participants (51 males, 44 females, and 5 did not indicate) completed the survey on Amazon Mechanical Turk. The plurality of participants were between the ages of 25-34 years \((n = 42)\), 18 were between 18-24 years old, 12 were between 35-44 years old, 11 were between 45-54 years old, 10 were between 55-64 years old, and 2 were between 65-74 years old. The majority of participants (51%) identified as Asian, 37% identified as Caucasian, 7% identified as African-American, 4% identified as other, and 1% identified as American Indian. The plurality of participants (39%) indicated that they graduated from college, 19% indicated that they completed graduate school, 14% indicated that they underwent two years of college, 12% indicated that they graduated from high school, 9% indicated that they underwent three years of college, 5% indicated that they underwent one year of college, and 2% indicated that they completed some graduate school.

**Materials**

Participants read and completed a consent form (see Appendix L). Participants then viewed a total of 49 pictures consisting of small and large portions of carrots, grapes, chips,
chocolate, and crackers (see Appendix M for an example). Participants were asked to rate each picture on two items: 1) “How healthy/unhealthy would you rate the food item in the picture?” Participants responded either: (a) “very unhealthy”, (b) “unhealthy”, (c) “neutral”, (d) “healthy”, or (e) “very healthy”. The second item was, “How would you rate the portion size of the food item?” The response options included: (a) “very small”, (b) “small”, (c) “medium”, (d) “large”, and (e) “very large”.

Procedure

Ethics approval was granted for both surveys by the University of Toronto Social Sciences, Humanities, and Education Research Ethics Review Board.

The survey was created in Survey Monkey, a provider of web-based surveys, and uploaded on Amazon Mechanical Turk, a crowdsourcing Internet marketplace, for respondents to complete. Participants completed a consent form (see Appendix L) and then viewed each of the forty-nine pictures (see Appendix M for an example) and rated them on two items: 1) How healthy/unhealthy would you rate the food item in the picture? 2) How would you rate the portion size of the food item in the picture? Participants were paid the Mechanical Turk rate of $0.60 per hour once they completed the survey. The survey took approximately half an hour to complete.

Results

The five food pictures were selected for the second survey if the participants rated the portion as the smallest or largest portion. This resulted in the selection of 10 pictures: one small and one large portion of each of the following: carrots, grapes, chips, crackers, and chocolate. For the small carrots 14% of the respondents rated the portion as very small and 42% rated it as small. For the large carrots 54% of the respondents rated the portion as very
large and 24% rated it as large. Sixty percent of the participants rated the carrots as healthy. For the small portion of chips 37% of the participants rated the portion as very small and 47% rated it as small. For the large portion of chips 70% of the participants rated it as very large and 7% rated it as large. Forty-seven percent of the participants rated the chips as unhealthy. For the small portion of chocolate 39% of the participants rated the portion as very small and 39% rated it as small. For the large portion of chocolate 28% of participants rated the portion as very large and 46% rated it as large. Of the participants 24% rated chocolate as unhealthy, 32% rated it as slightly unhealthy, and 23% rated it as slightly healthy. For the small portion of grapes 11% of the participants rated the portion as very small and 59% rated it as small. For the large portion of grapes 53% of the participants rated it as very large and 30% rated it as large. Grapes were rated as very healthy by 65% of the participants and 29% as healthy. For the small portion of crackers 34% of the participants rated it as very small and 45% rated it as small. For the large portion of crackers 27% of the participants rated the portion as very large and 43% rated it as large. Crackers were rated by 32% of the participants as neutral, as slightly healthy by 26%, and slightly unhealthy by 24% of the participants. Overall, grapes and carrots were both rated as healthy. Chips were rated as unhealthy. Chocolate and crackers were rated as slightly unhealthy.

**Survey 2**

The objective of Survey 2 was to determine whether females are judged differently on a number of characteristics depending on the portion size and type of snack they eat. What impression does a female convey after she eats a large portion of a healthy food? What impression she does convey after eating a small portion of an unhealthy food? More specifically, we wanted to determine whether eating a small or large portion of a healthy food
item is rated as positive or negative (i.e., healthy vs. unhealthy) and whether eating a small or large portion of an unhealthy food item is rated as positive or negative (i.e., healthy vs. unhealthy, attractive). These findings would shed light on the previous studies by providing possible explanations as to why the participants chose certain snacks and ate a specific amount of the snack.

Based on the literature reviews we predicted that type of snack would be more important than would portion size (see Vartanian, 2015; Vartanian et al., 2007, for reviews).

**Methods**

**Participants**

Participants were required to complete only one version of the survey. One-thousand three-hundred and seven participants completed the survey. The data of those who completed more than one version of the study were deleted, leaving 1019 participants. A total of 762 remained after eliminating participants who failed to complete questionnaires or to answer the reliability question. Table 15 displays demographic information of the participants.

Table 15: Basic demographics of the participants.

| Age Mean | Sex Male = 56% | Sex Female = 43% | Race South = 56% | Race Asian = 43.7% | Race Caucasian = 40.9% | Born in Canada or US No = 53.5% | Born in Canada or US Yes = 45.6% | Country born other than USA or Canada India = 45.6% | Country born other than USA or Canada Yes = 45.3% | First language English = 60.5% | First language Tamil = 12.5% | First language Malayalam = 7.2% | First language Hindi = 6.7% | Highest education Bachelor degree = 44.9% | Highest education Graduate degree = 21.5% | Highest education Some college = 19.1% | Highest education High school = 7.5% |
|----------|----------------|-----------------|------------------|---------------------|------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 32.48    | 43%            | 43.7%           | 40.9%            | 53.5%               | 45.6%                  | 60.5%                      | 12.5%                       | 7.2%                        | 6.7%                        | 44.9%                      | 21.5%                      | 19.1%                      | 7.5%                        |
Materials

Participants were first asked to sign a consent form (see Appendix L) indicating that they agreed to participate in the study.

*Demographic variables* were assessed using a demographic questionnaire (see Appendix O). Participants provided their age, sex, race, whether they were born in USA or Canada, how many years they have been in the USA or Canada, where were they born if not USA or Canada, first language, and highest level of education.

Participants viewed a picture of a food item, which was a small or large portion of grapes, carrots, chips, chocolate, or crackers and then read the following scenario, “It is the afternoon and you are taking an afternoon break from work/school. You are sitting in a lunch room/cafeteria and notice a female eating an afternoon snack (see Appendix N for an example). She eats all the food on her plate or in her bowl. She is of medium height and in her early twenties. She has straight, brown hair and is wearing jeans and a black blouse”.

*Ratings of Adjectives.* Participants were asked to rate the female on a Likert scale from 1 (not at all) to 5 (to a great extent) on 14 adjectives: intelligent, healthy, unhealthy, feminine, masculine, funny, attractive, stressed, likeable, anti-social, happy, unhappy, slim, and sloppy.

Procedure

The survey was created in Survey Monkey, a provider of web-based surveys, and uploaded onto Amazon Mechanical Turk, a crowdsourcing Internet marketplace, for respondents to complete. Participants first read and signed a consent form (see Appendix L) if they agreed to participate in the study. They then viewed a picture of a food item (see Appendix N) for an example) and read a scenario about a female eating the snack in the
picture. Participants were then asked to rate the participant on 14 adjectives. Participants then provided their demographic information by answering the demographic questions (see Appendix O). Lastly, participants were debriefed regarding the true nature of the study (see Appendix P) and asked to complete the re-consent (see Appendix Q) if they agreed for their data to be used after learning the true nature of the study. Participants were paid the Mechanical Turk Rate of $0.60 per hour once they completed the survey. The survey took approximately 45 minutes to complete. The independent variable was the picture of the snack that the female in the scenario allegedly ate. The dependent variables were the adjective ratings.

Results

Tables 16a and 16b displays the sample sizes, means, standard deviations, and ANOVA results of the rating responses for each of the food pictures.
Table 16a. Sample size, means, standard deviations, and ANOVAs for rating responses for each of the food pictures.

<table>
<thead>
<tr>
<th>Food</th>
<th>Intelligent</th>
<th>Healthy</th>
<th>Unhealthy</th>
<th>Feminine</th>
<th>Masculine</th>
<th>Funny</th>
<th>Attractive</th>
</tr>
</thead>
<tbody>
<tr>
<td>S Carrots</td>
<td>3.61&lt;sup&gt;a,b&lt;/sup&gt; (.58)</td>
<td>4.01&lt;sup&gt;d,e&lt;/sup&gt; (.88)</td>
<td>2.17&lt;sup&gt;a,b&lt;/sup&gt; (.99)</td>
<td>3.89&lt;sup&gt;a,b,c&lt;/sup&gt; (.82)</td>
<td>1.85&lt;sup&gt;a&lt;/sup&gt; (.90)</td>
<td>2.90&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.74&lt;sup&gt;a,b,c&lt;/sup&gt; (.73)</td>
</tr>
<tr>
<td>L Carrots</td>
<td>3.56&lt;sup&gt;a,b&lt;/sup&gt; (.84)</td>
<td>3.96&lt;sup&gt;a&lt;/sup&gt; (.91)</td>
<td>2.26&lt;sup&gt;a,b,c&lt;/sup&gt; (1.07)</td>
<td>4.00&lt;sup&gt;a,b,c&lt;/sup&gt; (1.02)</td>
<td>2.13&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.90&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.72&lt;sup&gt;a,b,c&lt;/sup&gt; (.90)</td>
</tr>
<tr>
<td>S Chips</td>
<td>3.17&lt;sup&gt;a&lt;/sup&gt; (.50)</td>
<td>2.78&lt;sup&gt;a&lt;/sup&gt; (.83)</td>
<td>3.28&lt;sup&gt;a&lt;/sup&gt; (84)</td>
<td>3.62&lt;sup&gt;a,b&lt;/sup&gt; (.78)</td>
<td>2.33&lt;sup&gt;a&lt;/sup&gt; (.95)</td>
<td>3.01&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.27&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>L Chips</td>
<td>3.30&lt;sup&gt;a,b&lt;/sup&gt; (.78)</td>
<td>3.34&lt;sup&gt;a&lt;/sup&gt; (1.10)</td>
<td>2.88&lt;sup&gt;b&lt;/sup&gt; (.10)</td>
<td>3.55&lt;sup&gt;a&lt;/sup&gt; (96)</td>
<td>2.21&lt;sup&gt;a&lt;/sup&gt; (.98)</td>
<td>3.09&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.39&lt;sup&gt;a,b&lt;/sup&gt;</td>
</tr>
<tr>
<td>S Chocolate</td>
<td>3.43&lt;sup&gt;a,b&lt;/sup&gt; (.84)</td>
<td>3.24&lt;sup&gt;a,b,c&lt;/sup&gt; (94)</td>
<td>3.43&lt;sup&gt;a,b,c&lt;/sup&gt; (1.15)</td>
<td>2.73&lt;sup&gt;a,b,c&lt;/sup&gt; (.68)</td>
<td>4.32&lt;sup&gt;c&lt;/sup&gt; (94)</td>
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<td>3.16&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>L Chocolate</td>
<td>3.49&lt;sup&gt;a,b&lt;/sup&gt; (.83)</td>
<td>3.38&lt;sup&gt;b,c&lt;/sup&gt; (1.09)</td>
<td>2.81&lt;sup&gt;b,c,d&lt;/sup&gt; (1.17)</td>
<td>3.86&lt;sup&gt;a,b,c&lt;/sup&gt; (1.01)</td>
<td>2.34&lt;sup&gt;a&lt;/sup&gt; (.18)</td>
<td>3.45&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.82&lt;sup&gt;a,c&lt;/sup&gt; (.87)</td>
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<td>S Grapes</td>
<td>3.77&lt;sup&gt;b&lt;/sup&gt; (.72)</td>
<td>4.36&lt;sup&gt;a&lt;/sup&gt; (.62)</td>
<td>2.76&lt;sup&gt;a&lt;/sup&gt; (76)</td>
<td>4.17&lt;sup&gt;b,c&lt;/sup&gt; (.76)</td>
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<td>2.87&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
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<td>4.32&lt;sup&gt;a&lt;/sup&gt; (.69)</td>
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<td>1.91&lt;sup&gt;a&lt;/sup&gt; (.99)</td>
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<td>2.93&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>S Crackers</td>
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<td>3.75&lt;sup&gt;c,d&lt;/sup&gt; (.71)</td>
<td>2.75&lt;sup&gt;b,c,d&lt;/sup&gt; (89)</td>
<td>4.25&lt;sup&gt;c&lt;/sup&gt; (.71)</td>
<td>2.00&lt;sup&gt;a&lt;/sup&gt; (.76)</td>
<td>3.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.00&lt;sup&gt;a&lt;/sup&gt;</td>
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<tr>
<td>L Crackers</td>
<td>3.25&lt;sup&gt;a&lt;/sup&gt; (.84)</td>
<td>3.18&lt;sup&gt;ab&lt;/sup&gt; (1.04)</td>
<td>2.83&lt;sup&gt;c,d&lt;/sup&gt; (1.20)</td>
<td>3.88&lt;sup&gt;a,b,c&lt;/sup&gt; (94)</td>
<td>3.12&lt;sup&gt;a&lt;/sup&gt; (0.88)</td>
<td>3.19&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.58&lt;sup&gt;a,b,c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

ANOVA: \( F(9, 752) = 6.53, p < .001 \)

Note: Significant differences are indicated by different superscripts.
Table 16b. Sample sizes, means, standard deviations, and ANOVAs for the rating responses for each of the food pictures.

<table>
<thead>
<tr>
<th></th>
<th>Stressed</th>
<th>Likeable</th>
<th>Anti-social</th>
<th>Happy</th>
<th>Unhappy</th>
<th>Slim</th>
<th>Sloppy</th>
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<tr>
<td>S Carrots (n = 84)</td>
<td>2.26a,b</td>
<td>3.67a,b,</td>
<td>2.45a</td>
<td>3.64a,b,c</td>
<td>2.17a,b,c</td>
<td>3.62a,b,c</td>
<td>2.27a,b</td>
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<tr>
<td></td>
<td>(.89)</td>
<td>(.68)</td>
<td>(1.02)</td>
<td>(.82)</td>
<td>(91)</td>
<td>(.73)</td>
<td>(.95)</td>
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<tr>
<td>L Carrots (n = 90)</td>
<td>2.26a,b,c</td>
<td>3.63a,b,</td>
<td>2.31a</td>
<td>3.91b,c</td>
<td>2.07a,b,c</td>
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<td>(.80)</td>
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<td>S Chips (n = 93)</td>
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<td></td>
<td>(.00)</td>
<td>(.76)</td>
<td>(.98)</td>
<td>(.86)</td>
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<tr>
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<td>4.03b</td>
<td>2.21a</td>
<td>3.83c,a,b,c</td>
<td>2.01a,b</td>
<td>3.39a,b,c</td>
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<tr>
<td></td>
<td>(1.09)</td>
<td>(.54)</td>
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<td>(.83)</td>
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<td>(.94)</td>
<td>(.91)</td>
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<td>3.94c</td>
<td>2.14b,c</td>
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<td></td>
<td>(1.16)</td>
<td>(.81)</td>
<td>(1.11)</td>
<td>(.77)</td>
<td>(99)</td>
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<td>1.87a (.91)</td>
<td>3.76b,c</td>
<td>2.24a,b</td>
</tr>
<tr>
<td></td>
<td>(.90)</td>
<td>(.71)</td>
<td>(1.00)</td>
<td>(.67)</td>
<td>(.85)</td>
<td>(.85)</td>
<td>(1.01)</td>
</tr>
<tr>
<td>S Crackers (n = 8)</td>
<td>2.76b,c,d</td>
<td>3.50a</td>
<td>2.63a</td>
<td>3.5a,b,c</td>
<td>2.38a,b,c</td>
<td>3.57a,b,c</td>
<td>2.25a,b</td>
</tr>
<tr>
<td></td>
<td>(.46)</td>
<td>(.53)</td>
<td>(.52)</td>
<td>(.53)</td>
<td>(.74)</td>
<td>(.98)</td>
<td>(.87)</td>
</tr>
<tr>
<td>L Crackers (n = 83)</td>
<td>2.76b,c,d</td>
<td>3.62a,b,</td>
<td>2.49a</td>
<td>3.46b,c</td>
<td>2.57b,c</td>
<td>3.18a,b</td>
<td>2.60a,b</td>
</tr>
<tr>
<td></td>
<td>(1.05)</td>
<td>(.69)</td>
<td>(.98)</td>
<td>(.86)</td>
<td>(.98)</td>
<td>(.99)</td>
<td>(.97)</td>
</tr>
</tbody>
</table>

ANOVA \( F(9, 751) \) \( F(9, 746) \) \( F(9, 750) \) \( F(9, 748) \) \( F(9, 746) \) \( F(9, 749) \)
\[9.38, p < .001\] \[4.76, p = .001\] \[2.25, p = .017\] \[6.76, p < .001\] \[7.14, p < .001\] \[8.46, p < .001\] \[5.39, p < .001\]

Note. Tukey’s-B was conducted for the post-hoc analysis. Subscripts represent the post-hoc test.

A one-way analysis of variance (ANOVA) was conducted for each of the adjectives. Picture of a food item – small or large portion of the five food items - was the independent variable and the adjective was the dependent variable. The adjectives were: intelligent, happy, unhappy, feminine, masculine, funny, attractive, stressed, likeable, anti-social, happy, unhappy, slim, and sloppy. Tukey’s-B and Bonferroni were conducted for the post-hoc analysis. The 14 ANOVAs were all statistically significant (see Tables 16a and 16b).
Intelligent. For intelligent, according to Bonferroni post-hoc tests small chips were significantly different from small carrots (mean difference = .44, \( p = .006 \)), large carrots (mean difference = .38, \( p = .026 \)), small grapes (mean difference = .60, \( p < .01 \)) and large grapes (mean difference = .62, \( p < .01 \)). Large chips were significantly different from small grapes (mean difference = .47, \( p = .006 \)) and from large grapes (mean difference = .49, \( p = .002 \)). Large crackers were significantly different from small grapes (mean difference = .52, \( p = .001 \)) and large grapes (mean difference = .54, \( p < .001 \)). Overall, the target was rated as less intelligent when she ate unhealthy food items compared to healthy food items.

Healthy. For healthy, according to Bonferroni post-hoc tests small carrots were significantly different from small chips (mean difference = 1.23, \( p < .01 \)), large chips (mean difference = 1.13, \( p < .01 \)), small chocolate (mean difference = .77, \( p < .01 \)), large chocolate (mean difference = .63, \( p < .01 \)), and large crackers (mean difference = .83, \( p < .01 \)). Large carrots were significantly different from small chips (mean difference = 1.17, \( p < .01 \)), large chips (mean difference = 1.07, \( p < .01 \)), small chocolate (mean difference = .72, \( p < .01 \)), large chocolate (mean difference = .57, \( p < .01 \)), and large crackers (mean difference = .77, \( p < .01 \)). Small chips were significantly different large chocolate (mean difference = .60, \( p = .001 \)), small grapes (mean difference = 1.57, \( p < .01 \)), and large grapes (mean difference = 1.54, \( p < .01 \)). Large chips were significantly different from large chocolate (mean difference = .50, \( p = .025 \)), small grapes (mean difference = 1.48, \( p < .01 \)), and large grapes (mean difference = 1.44, \( p < .001 \)). Small chocolate was significantly different from small grapes (mean difference = 1.12, \( p < .001 \)) and large grapes (mean difference = 1.09, \( p < .01 \)). Large chocolate was significantly different from small grapes (mean difference = .14, \( p < .001 \)) and large grapes (mean difference = .94, \( p < .001 \)). Large crackers were significantly
different from small grapes (mean difference = 1.18, \( p < .001 \)) and large grapes (mean difference = 1.14, \( p < .001 \)). Overall, the target was rated as healthier when she ate healthy food items (e.g., carrots and grapes) compared to unhealthy items (e.g., chips and chocolate).

**Unhealthy.** For unhealthy, according to Bonferroni post-hoc tests small carrots were significantly different from small chips (mean difference = 1.11, \( p < .001 \)), large chips (mean difference = 1.17, \( p < .001 \)), small chocolate (mean difference = .56, \( p = .025 \)), large chocolate (mean difference = .64, \( p = .002 \)), and large crackers (mean difference = .66, \( p = .001 \)). Large carrots were significantly different from small chips (mean difference = 1.08, \( p < .001 \)), large chips (mean difference = 1.14, \( p < .001 \)), small chocolate (mean difference = .52, \( p = .043 \)), large chocolate (mean difference = .61, \( p = .004 \)), large grapes (mean difference = .52, \( p = .023 \)), and large crackers (mean difference = .63, \( p = .002 \)). Small chips were significantly different from small chocolate (mean difference = .56, \( p = .017 \)), small grapes (mean difference = 1.52, \( p < .001 \)), and large grapes (mean difference = 1.60, \( p < .001 \)). Large chips were significantly different from small chocolate (mean difference = .62, \( p = .007 \)), large chocolate (mean difference = .53, \( p = .039 \)), small grapes (mean difference = 1.59, \( p < .001 \)), and large grapes (mean difference = 1.66, \( p < .001 \)). Small chocolate was significantly different from small grapes (mean difference = .97, \( p < .001 \)) and large grapes (mean difference = .105, \( p < .001 \)). Large chocolate was significantly different from small grapes (mean difference = 1.05, \( p < .001 \)) and large grapes (mean difference = 1.13, \( p < .001 \)). Large crackers were significantly different from small grapes (mean difference = 1.07, \( p < .001 \)) and large grapes (mean difference = 1.15, \( p < .001 \)). The female target as unhealthy when she ate chips and rated as less unhealthy after eating grapes and carrots.
**Feminine.** For feminine, according to Bonferroni post-hoc tests small chips were significantly different from small chocolate (mean difference = .68, \( p < .001 \)) and small grapes (mean difference = .53, \( p = .006 \)). Large chips were significantly different from small chocolate (mean difference = .76, \( p < .001 \)) and small grapes (mean difference = .62, \( p = .001 \)). The target was rated as least feminine when she ate chips and the most feminine when she ate a small portion of chocolate.

**Masculine.** For masculine, according to Bonferroni post-hoc tests small grapes were significantly different from small chips (mean difference = .60, \( p = .008 \)) and large chocolate (mean difference = .59, \( p = .01 \)). The female was not rated as masculine regardless of the food she ate.

**Funny.** For funny, according to Bonferroni post-hoc tests large chocolate was significantly different from small carrots (mean difference = .55, \( p = .002 \)), large carrots (mean difference = .55, \( p = .001 \)), small chips (mean difference = .44, \( p = .035 \)), small grapes (mean difference = .58, \( p = .001 \)), and large grapes (mean difference = .52, \( p = .004 \)). The target was rated as funnier after eating a large portion of chocolate.

**Attractive.** For attractive, according to Bonferonni post-hoc tests small chips were significantly different from small carrots (mean difference = .47, \( p = .004 \)), large carrots (mean difference = .45, \( p < .006 \)), small chocolate (mean difference = .64, \( p < .001 \)), large chocolate (mean difference = .55, \( p < .001 \)), small grapes (mean difference = .69, \( p < .001 \)), and large grapes (mean difference = .56, \( p < .001 \)). Large chips were significantly different from small chocolate (mean difference = .51, \( p = .004 \)), large chocolate (mean difference = .42, \( p = .037 \)), small grapes (mean difference = .57, \( p = .001 \)), and large grapes (mean difference = .57, \( p = .02 \)). The target was rated as least attractive when she ate chips.
Stressed. For stressed, according to Bonferroni post-hoc tests small chips were significantly different from small carrots (mean difference = .68, \( p < .001 \)), large carrots (mean difference = .59, \( p = .004 \)), small grapes (mean difference = .69, \( p < .001 \)) and large grapes (mean difference = .88, \( p < .001 \)). Large chips were significantly different from small carrots (mean difference = .87, \( p < .001 \)), large carrots (mean difference = .78, \( p < .001 \)), small grapes (mean difference = .88, \( p < .001 \)) and large grapes (mean difference = 1.06, \( p < .001 \)). Small chocolate was significantly different from large grapes (mean difference = .66, \( p = .001 \)). Large chocolate was significantly different from large grapes (mean difference = .58, \( p = .007 \)). Large crackers were significantly different from large grapes (mean difference = .69, \( p < .001 \)). The target was rated less stressed when she ate healthy food items (e.g., carrots and grapes) and more stressed when she ate chips.

Likeable. For likeable, according to Bonferroni post-hoc tests small chips were significantly different from small grapes (mean difference = .39, \( p = .016 \)), and for large grapes (mean difference = .42, \( p = .003 \)). Small chocolate was significantly different from large carrots (mean difference = .40, \( p = .013 \)), small chips (mean difference = .58, \( p < .001 \)), large chips (mean difference = .47, \( p = .002 \)), and large crackers (mean difference = .40, \( p = .016 \)). The target was rated as likeable when she ate a small portion of chocolates.

Anti-social. For anti-social, according to Bonferroni post-hoc tests there were no significant differences. The target was rated as not very anti-social regardless of the food item and portion she ate.

Happy. For happy, according to Bonferroni post-hoc tests large carrots were significantly different from small chips (mean difference = .62, \( p < .001 \)), large chips (mean difference = .53, \( p = .001 \)), and large crackers (mean difference = .45, \( p = .01 \)). Small chips
were significantly different from small chocolate (mean difference = .53, \( p = .001 \)), large chocolate (mean difference = .65, \( p < .001 \)), and large grapes (mean difference = .53, \( p < .001 \)). Large chocolate was significantly different from large crackers (mean difference = .48, \( p = .006 \)). The target was rated as happy when she ate grapes, carrots, and chocolate and least happy when she ate chips.

**Unhappy.** For unhappy, according to Bonferroni post-hoc tests small chips were significantly different from large carrots (mean difference = .52, \( p = .012 \)), small chocolate (mean difference = .57, \( p = .005 \)), small grapes (mean difference = .51, \( p = .025 \)), and large grapes (mean difference = .72, \( p < .001 \)). Large chips were significantly different from small carrots (mean difference = .53, \( p = .023 \)), large carrots (mean difference = .63, \( p = .001 \)), small chocolate (mean difference = .68, \( p = .001 \)), large chocolate (mean difference = .55, \( p = .013 \)), small grapes (mean difference = .62, \( p = .003 \)) and large grapes (mean difference = .83, \( p < .001 \)). Large crackers were significantly different from large carrots ((mean difference = .51, \( p = .025 \)), small chocolate (mean difference = .56, \( p = .011 \)), small grapes (mean difference = .50, \( p = .048 \)), and large grapes (mean difference = .71, \( p < .001 \)). The target was rated as being the most unhappy when she ate chips.

**Slim.** For slim, according to Bonferroni post-hoc tests small carrots were significantly different from small chips (mean difference = .56, \( p = .002 \)), large chips (mean difference = .61, \( p = .001 \)), and large chocolate (mean difference = .46, \( p = .047 \)). Small chips were significantly different from small grapes (mean difference = .80, \( p < .001 \)) and large grapes (mean difference = .70, \( p < .001 \)). Large chips were significantly different from large carrots (mean difference = .43, \( p = .047 \)), small grapes (mean difference = .84, \( p < .001 \)), and large grapes (mean difference = .74, \( p < .001 \)). Small grapes were significantly different from large
chocolate (mean difference = .70, $p < .001$) and large crackers (mean difference = .68, $p < .001$). Large grapes were significantly different from large chocolate (mean difference = .60, $p = .001$) and large crackers (mean difference = .57, $p = .002$). The target was rated as being least slim when she ate chips and being the most slim when she ate grapes.

**Sloppy.** For sloppy, according to Bonferroni post-hoc tests small carrots were significantly different from large chips (mean difference = .54, $p = .022$) and large chocolate (mean difference = .50, $p = .04$). Small chips were significantly different from small grapes (mean difference = .60, $p = .003$) and large grapes (mean difference = .48, $p = .037$). Large chips were significantly different from small grapes (mean difference = .69, $p = .001$) and large grapes (mean difference = .57, $p = .009$). Small chocolate was significantly different from small grapes (mean difference = .54, $p = .029$). Large chocolate was significantly different from small grapes (mean difference = .65, $p = .001$) and large grapes (mean difference = .53, $p = .016$). The target was rated as least sloppy when she ate grapes and the most sloppy when she ate chips.

**Discussion**

The female target was rated as more intelligent, healthy, attractive, feminine, and slim and less unhealthy, unhappy, stressed, and sloppy when she ate healthy food items (e.g., grapes and carrots) compared to unhealthy food items (e.g., chips). The female target was rated as happy and likeable when she ate chocolate. When the target ate chips she was rated as more sloppy, unhappy, stressed, unhealthy and less intelligent, slim, happy, attractive, feminine, and healthy. Portion size did not have an effect on the ratings. Eating a large portion of carrots was not significantly different from eating a small portion of carrots. Eating a small portion of chips was not significantly different from a large portion of chips. Eating a
large portion of carrots is not considered unhealthy due to the large portion but rather healthy because of the type of food and eating a small portion of chips is not considered healthy due to the small portion size but rather unhealthy due to the type of food. According to the survey results the participants made judgments according to type of food, not portion size. Several studies consistently show that “we are what we eat” (see Vartanian et al., 2007, for a review). However, the literature on portion size lacks consistency because some studies confounded meal type with meal size. As well, when the female target was presented visually meal size did not affect ratings of attractiveness and social appeal (see Vartanian et al., 2007, for a review).

These results can aid in interpreting the results from Experiments 1 and 2. We are aware that we judge others based on type of food selected and not necessarily amount eaten and we internalize these judgments. We then choose to act according to the impression that we would like to convey. Perhaps the participants in the previous studies were more concerned about the type of snack they chose and not the amount of food they ate. There were significant differences in the type of food participants chose in Experiments 1 and 2; however, there were no differences in amount of snack consumed. When the female target in the second survey was described as eating carrots she was rated as higher in intelligence, health, attractiveness, and slimmer and lower in sloppiness and stress. By selecting the carrots the threatened participants in Experiments 1 and 2 may have been trying to convey that they were intelligent, healthy, attractive, and/or slim and not stressed and sloppy. In Experiment 2 both restrained and unrestrained eaters were more likely to choose a food (carrots) that made them appear intelligent after having their intelligence threatened.

**Limitations**
A limitation of Survey 2 was the adjectives included. Not all of the opposite adjectives were included. For example, slim was included but not fat and attractive was included but not unattractive. It is difficult to infer if someone would be rated as unattractive or just less attractive or fat and not less slim.

Participants were asked to only complete one of the ten versions of the second survey; however, after the data were collected it was revealed that was not always the case and often participants completed numerous versions of the second survey. As a result duplicate submissions were deleted and the sample size decreased, specifically for the survey that assessed the small portion of crackers. This makes it difficult to interpret the data collected on the small portion of crackers.
Chapter 4

Experiment 3

In Experiment 1, we found that restrained eaters who experienced an ego threat (intelligence and social appeal) and were offered (and expected to select) an unhealthy snack more often chose a healthy snack. It was hypothesized that the restrained eaters who experienced an ego threat felt embarrassed and attempted to restore their image by choosing the healthy food item. In Experiment 2, we found that participants (unrestrained and restrained eaters) who experienced an intelligence threat chose carrots more often that did those who experienced no threat, who tended to choose chips more often. It was inferred that those who experienced an intelligence threat chose a healthy snack in order to convey a positive impression to the experimenter, attempting to restore their public image.

Oliver and colleges (2000) found that when emotional eaters experienced stress they ate more sweet and fatty foods compared to when they did not experience stress, and Groesz et al., (2012) and Wallis and Hetherington (2009) reported that highly palatable non-nutritious foods were consumed in greater amounts when participants were under stress. In addition, Zellner et al. (2006) found that subjects who were unable to complete anagrams ate more M&Ms and fewer grapes than did those who were able to solve the anagrams. The evidence supports the finding that when people experience stress they eat junk food, at least when their food choice and intake is supposed in private; however in our Experiments 1 and 2, the threatened participants chose carrots instead of chips.

The participants in Experiments 1 and 2 made a public (to the experimenter) decision as to which snack they wanted to taste and rate. It is unclear whether participants would behave in the same manner (i.e., make the same choice) if they were in a private scenario and
no one knew which snack they chose to eat, as was the case in the other stress-related studies cited above. People who binge eat, according to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association, 2013), typically do so in private and eat large portions of food, usually unhealthy food (Crosby, Mitchell, & Engel, 2007), during binge eating episodes. It is evident that people engage in different behaviors when they are alone, in private, without others knowing what they are doing. In Experiments 1 and 2, another individual was aware of the participants’ actions, so when participants chose a specific food item it is unclear whether they were attempting to restore their public image or attempting to protect their private self-esteem after experiencing an ego threat. Perhaps, if they were to select a food in private, they would make a different selection than they would in public.

Experiment 3 attempted to determine whether participants would choose a healthy snack in order to impress others and choose an unhealthy snack when others do not know which snack they are choosing, or whether they would make the same choice in public and private in an attempt to restore their self-image for self-enhancement purposes. Participants experienced an intelligence threat or no threat and then had the opportunity to choose a healthy snack or unhealthy snack in such a way that the experimenter knew which snack they chose (public condition) or supposedly no one, including the experimenter, knew which snack they chose (private condition). Of course, the researchers were able to ascertain the participant’s choice in either case, but the participant was led to believe that no one would be privy to their “private” choice. Amount of snack was not measured because in the previous studies there were only significant findings for type of food.

Hypotheses:
1. A) Participants who experienced an intelligence threat and then tasted and rated a snack in the public condition (informing the experimenter of which snack they would taste and rate) would choose the healthy snack more often than the unhealthy snack in order to convey a positive impression to the experimenter. Participants in the Intelligence threat condition who have the opportunity to taste and rate a snack in the private condition would choose the unhealthy snack more often than the healthy snack because they did not have to portray a positive impression to others.

B) Those who did not experience a threat would choose the chips more often than the carrots regardless of whether they are in the public or private condition (perhaps not as often as those who experienced a threat and made a private choice).

2. In regards to restraint level, in Experiment 2 both restrained and unrestrained eaters chose to eat a healthy snack after they experienced an intelligence threat; therefore, we hypothesized that restrained and unrestrained eaters would respond in the same manner in the present experiment.

3. The self-esteem and mood scales would determine whether or not participants felt better or worse about themselves after consuming a healthy or unhealthy snack. Participants who experienced an ego threat should report lower self-esteem and mood compared to those who did not experience an ego threat.

**Methods**

**Participants**

One-hundred and thirteen female University of Toronto undergraduate students were given course credit toward their Introduction to Psychology course or $10.00 for participating. Participants were required to speak, understand, and write English. They could
not participate if they had any dietary restrictions due to allergies. The participants averaged 18.83 years of age (17-27) and most of them (81%) were in their first year of university. Thirty-five percent of the participants indicated that they were of Caucasian descent, 31% indicated that they were of East Asian descent, 19% indicated that they were of South Asian descent, 4% indicated that they were of Middle Eastern descent, 5% indicated that they were of Other descent, 2% indicated that they were of African-Canadian descent, and 3% indicated that they were of Hispanic descent. Participants who scored 14 or below on the Restraint Scale (Herman & Polivy, 1980) were categorized as unrestrained eaters and those who scored 15 or above on the scale were categorized as restrained eaters.

Materials

A battery of standard and widely used measures was used. Participants were first asked to sign a consent form (see Appendix R) indicating that they agreed to participate in the study.

Background variables were assessed using a demographic sheet (see Appendix B) that participants completed, which provided the researchers with information on the participants’ age, ethnicity, year in university, and hobbies. The participants were all given a demographic sheet that they thought a second participant had filled out (but which was actually prepared by the experimenter). Participants were asked to evaluate the second participant by answering various questions (see Appendix C) based on what the second participant allegedly wrote on the demographic sheet. Participants were then asked to taste and rate either carrots or chips.
Snack Ratings. The snack was rated using a taste-rating questionnaire (see Appendix D). Participants responded from 1 (Not at All) to 5 (Very) on six items: salty, sweet, crunchy, bitter, sour, and good-tasting.

Current mood was measured using the PANAS-X Scale (Watson & Clark, 1994) (see Appendix F). Participants responded to 36 emotion words, which were listed in Likert format (1 = “very slightly or not at all”; 5 = “extremely”). Participants assigned a number to each emotion indicating how they felt at that particular moment. Examples of emotions were: relaxed, jittery, hungry, embarrassed, full, and proud. A high score on the scale indicates a high level of emotion.

Current self-esteem was measured using the State Self-Esteem Scale (Heatherton & Polivy, 1991) (see Appendix E) a 20-item questionnaire. Participants respond from 1 (Not at all) to 5 (Extremely) as to how they are feeling at that moment. Items include: “I feel concerned about the impression I am making” and “I am pleased with my appearance right now”. A high score on the scale indicates a high level of state self-esteem.

Dietary restraint was measured using The Restraint Scale (Herman & Polivy, 1980) (see Appendix G). The measure consists of ten items assessing one’s eating behaviour and weight fluctuations. Higher scores on the scale indicate greater dietary restraint. Those who are identified as restrained (score 15 or above) and unrestrained (score 14 or below) were compared in order to determine if eating behaviour differs as a function of dietary restraint.

Manipulation Checks. The manipulation check (see Appendix S) assessed how intelligent the participants rated themselves as well as whether they believed that their snack choice was private or public (in accordance with the condition to which they were assigned).
Re-consent (see Appendix H) was required after participants were debriefed on the true nature of the study (see Appendix T).

Procedure

Ethics approval for the experiment was granted by the University of Toronto Social Sciences, Humanities, and Education Research Ethics Review Board.

When participants arrived at the lab they were greeted by a female experimenter and shown to the testing room. Participants were run individually. Participants were told that the study examined how different people evaluate various modalities and that participating in this study would require participants to rate different modalities such as personality traits of others and sensory stimuli. Participants were asked to read and sign the consent form (see Appendix R). They were then asked to complete the demographic sheet (see Appendix B) that provided the researchers with information about the participant’s age, ethnicity, year in university, and hobbies. Each participant was told that this sheet would be given to a second participant so that the second participant could rate her. Each participant was given a demographic sheet that she thought a second participant had previously filled out (but which was actually prepared by the experimenter). Each participant was asked to evaluate the second participant by answering various questions (see Appendix C) based on what the second participant allegedly wrote on the demographic sheet. This procedure allowed the experimenter to give the participant feedback on what the alleged second participant thought of her. The participants were randomly assigned to one of two threat conditions: 1) No threat (control) or 2) Intelligence threat condition. After participants completed the evaluation sheet, those in the No threat condition were given no feedback, whereas those in the Intelligence threat condition were told, “The second participant evaluated you from the
information you wrote down and she got the impression that your intelligence is slightly below the typical University of Toronto student’s.”

The participant was then told that the next task was to rate a sensory modality and that this task would take place in another room because it has a computer. The participant was shown to the other room and told that her task was to taste and rate a snack and that the rating survey was to be submitted online (see Appendix D). The snack rating was submitted online so that the experimenter did not see the responses. There were two large snack bowls in the room. Each snack bowl contained numerous Ziploc bags with food in them, so that when a participant took a Ziploc bag of a snack it was not noticeable. One bowl contained Ziploc bags of carrots (healthy snack) and the second bowl contained Ziploc bags of chips (unhealthy snack). There were an equal number of Ziploc bags in the bowls. The experimenter counted beforehand how many bags were in each bowl so that when the experiment was completed the experimenter was able to count the number of bags and know which snack the participant chose. Those in the Public condition were asked by the experimenter which snack they were going to rate, chips or carrots, before the participant made her choice. The experimenter showed her how to submit the taste-and-rate survey online. The experimenter left the room while the participant completed the taste-and-rate survey on the computer. Participants in the Private condition were told, “After I leave the room, take one bag of the snack you would like to taste and rate (chips or carrots). No one will know which snack you chose, so when you are done please throw the empty bag or remaining snack in the garbage under the desk.” The garbage bin had a lid on it so that it was not obvious to the experimenter which snack the participant chose. As well, the participant
was unable to see what the other participants chose. Before leaving the room the experimenter showed the participant how to submit the taste-and-rate survey online.

Participants in both conditions were asked to open the door to the testing room once they completed the online survey. The participant was then asked to complete a battery of questionnaires including the PANAS-Mood Check (Watson & Clark, 1994) (see Appendix F), State Self-Esteem Scale (Heatherton & Polivy, 1991) (see Appendix E), manipulation check (see Appendix S), and lastly the Restraint Scale (Herman & Polivy, 1980) (see Appendix G). Finally, the participant was debriefed regarding the true nature of the study (see Appendix T). Participants were asked to sign a re-consent form (see Appendix H) if they agreed to their data being used now that they knew the true nature of the study.

On average, the experiment required 60 minutes to complete.

**Results**

We predicted that participants who experienced an intelligence threat and then tasted and rated a snack in the Public condition would choose the healthy snack more often than the unhealthy snack. Participants in the Intelligence threat condition who had the opportunity to taste and rate a snack in the Private condition would choose the unhealthy snack more often than the healthy snack. Those who did not experience a threat would choose the chips more often than the carrots regardless of whether they were in the public or private condition.

As for dietary restraint, we hypothesized that restrained and unrestrained eaters would respond in the same manner in the present study.

Our third hypothesis concerned self-esteem and mood. Measuring self-esteem and mood will determine whether or not participants felt bad about themselves after experiencing a
threat. We predicted that those who experienced an ego threat should report lower self-esteem and mood than did those who experienced no threat.

**Manipulation Checks**

Independent-samples t-test confirmed that participants in the Public snack choice condition rated the experimenter as more aware of their snack choice (mean = 3.89 vs. 1.95, \( t(111) = 9.25, p < .01 \)) and their snack choice was less private (2.18 vs. 3.22, \( t(111) = -3.91, p < .01 \)) compared to those in the Private snack choice condition. Those in the Public condition were aware that the experimenter knew their snack choice, whereas those in the Private condition believed that their snack choice was private. This finding confirms that the public versus private manipulation worked.

An Independent-sample t-test was conducted to confirm that participants in the threat condition rated their current intelligence as lower. There were no significant differences in current intelligence for those in the No threat condition (mean = 2.74) compared to those in the Threat condition (mean = 2.91, \( t(111) = -.83, p = .41 \)). In addition, those in the Threat condition (mean = 5.09) did not rate their stress as higher than did those in the No threat condition (mean = 5.72, \( t(111) = 1.21, p = .23 \)). Those in the Threat condition did not rate their intelligence as lower and their stress levels as higher than did those in the No threat condition; therefore, it is possible that the ego-threat manipulation may not have worked. It is also possible that the measures did not accurately record the participants’ responses because only one item was used to capture their responses; also, the mood responses were recorded after the snack choice.

**Food Choice**
Table 17 displays the number of participants according to threat condition who chose carrots or chips.

Table 17. Number of participants according to threat and public/private conditions who chose carrots or chips.

<table>
<thead>
<tr>
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<th>Public</th>
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<th>Private</th>
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<tbody>
<tr>
<td></td>
<td>Carrots</td>
<td>Chips</td>
<td>Carrots</td>
<td>Chips</td>
</tr>
<tr>
<td>No Threat</td>
<td>19</td>
<td>9</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>21</td>
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</tbody>
</table>

We predicted that findings from Experiment 2 would replicate: Participants who experience an intelligence threat and then tasted and rated a snack in the public condition (informing the experimenter of which snack they would taste and rate) would choose the healthy snack more often than the unhealthy snack in order to convey a positive impression to the experimenter. Those who did not experience a threat would choose the chips more often than the carrots in the Public condition. A chi-square analysis was conducted with only those in the Public condition, determining which snacks those in the threat conditions chose. There was no significant difference between those in the Public condition who experienced a threat or no threat with regard to food choice ($\chi^2, (1, N = 55) = 0.68, \text{ns}$). Those in the Public condition chose carrots more often regardless of whether they experienced a threat or not.

A chi-square analysis was conducted with only those in the Private condition, determining if there was a difference between those in the threat conditions and choice of snack. There was no significant difference between those in the Private condition who experienced a threat or no threat with regard to snack selection ($\chi^2, (1, N = 57) = 1.27, \text{ns}$).
In order to determine whether those in the Threat condition selected different snacks according to the public vs. private condition a chi-square analysis was conducted with participants in the Public and Private threat conditions. There was a marginally significant difference ($\chi^2, (1, N = 54) = 3.00, p < .10$). The expected value at the predetermined alpha level of $p = .05$ is 3.841. There was a pattern that those who experienced a threat and were in the Public condition chose carrots more often, whereas those in the Private condition were not as likely to choose carrots or chips more often.

**Dietary Restraint**

In regards to dietary restraint, in Experiment 1 only restrained eaters chose carrots more often after experiencing an ego threat. In Experiment 2 both restrained and unrestrained eaters chose to eat a healthy snack after experiencing an intelligence threat; therefore, we hypothesized that restrained and unrestrained eaters would respond in the same manner in the present study. Table 18 displays the number of participants who chose chips or carrots according to dietary restraint level.

Table 18. Number of participants in each condition who chose carrots or chips according to dietary restraint level.

<table>
<thead>
<tr>
<th></th>
<th>Public Carrots</th>
<th>Public Chips</th>
<th>Private Carrots</th>
<th>Private Chips</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unrestrained Eaters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Threat</td>
<td>8</td>
<td>4</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>13</td>
<td>4</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td><strong>Restrained Eaters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Threat</td>
<td>11</td>
<td>5</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>
In order to test the hypothesis that restrained eaters in the Public condition chose carrots after experiencing a threat more often compared to restrained eaters in the Private condition a chi-square analysis was conducted comparing the public versus private food choices of the restrained eaters in the Intelligence threat condition. When comparing the four groups there is a significant difference ($\chi^2$, (1, $N = 21$) = 4.07, $p < .05$). Restrained eaters in the threat condition chose carrots more often when their choice was made public (to the experimenter) compared to those who made a private choice. Those in the Private condition chose chips more often than carrots. This finding should be examined with caution because the sample sizes are small. Therefore, when threatened restrained eaters have the opportunity to choose a snack in private they will choose the unhealthy snack; however, when they are forced to inform others what their snack choice is, they will choose the healthy snack. This may occur because they are attempting to convey a positive impression.

**Mood Ratings**

The third hypothesis predicted mood and self-esteem differences between those who experienced a threat or not. We predicted that participants who experienced a threat would report lower self-esteem and mood ratings compared to those who did not experience a threat. In order to test this hypothesis 3 one-way analyses of variances (ANOVAs) were conducted using the experimental conditions as the independent variables and mood and self-esteem ratings as the dependent variables. These findings should be examined with caution because the sample size is small.

Negative mood consisted of six items: distressed, annoyed, upset, tense, irritable, and irritated. Positive mood consisted of seven items: excited, enthusiastic, strong, inspired, pleased, proud, and determined. The means and standard deviations for negative mood
ratings are displayed in Table 19. The experimental groups did not differ on negative mood. There were no significant differences for all eight groups \( (F(7, 104) = .68, p = .69) \).

Table 19. Means and Standard Deviations of Negative Mood Ratings according to experimental conditions.

<table>
<thead>
<tr>
<th>Experimental Conditions</th>
<th>Public Carrots</th>
<th>Public Chips</th>
<th>Private Carrots</th>
<th>Private Chips</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat</td>
<td>10.21 (4.53)</td>
<td>10.00 (4.39)</td>
<td>8.71 (3.21)</td>
<td>8.22 (2.68)</td>
</tr>
<tr>
<td></td>
<td>( n = 19 )</td>
<td>( n = 9 )</td>
<td>( n = 21 )</td>
<td>( n = 9 )</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>9.00 (3.69)</td>
<td>10.67 (6.34)</td>
<td>8.80 (3.47)</td>
<td>10.75 (5.03)</td>
</tr>
<tr>
<td></td>
<td>( n = 21 )</td>
<td>( n = 6 )</td>
<td>( n = 15 )</td>
<td>( n = 12 )</td>
</tr>
</tbody>
</table>

The means and standard deviations for positive mood ratings are displayed in Table 20. The positive mood ratings differed across the experimental conditions \( (F(7, 103) = 2.66, p = .01) \).
Table 20. Means and Standard Deviations for Positive Mood Ratings for According to Experimental Conditions.

<table>
<thead>
<tr>
<th></th>
<th>Public Carrots</th>
<th>Public Chips</th>
<th>Private Carrots</th>
<th>Private Chips</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Threat</td>
<td>16.56 (5.68)</td>
<td>16.44 (5.48)</td>
<td>16.57 (4.68)</td>
<td>14.89 (4.88)</td>
</tr>
<tr>
<td></td>
<td>(n = 18)</td>
<td>(n = 9)</td>
<td>(n = 21)</td>
<td>(n = 9)</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>13.76 (4.96)</td>
<td>15.33 (3.67)</td>
<td>19.60 (6.97)</td>
<td>11.92 (4.42)</td>
</tr>
<tr>
<td></td>
<td>(n = 21)</td>
<td>(n = 6)</td>
<td>(n = 15)</td>
<td>(n = 12)</td>
</tr>
</tbody>
</table>

Note. According to Bonferroni correction post-hoc tests the positive mood of those in the Threat/Private/Carrots condition is significantly different from those in the Threat/Private/Chips condition (mean difference = 7.68, \(p = .008\)). Those who experienced a threat and chose carrots in private reported a more positive mood compared to those who experienced a threat and chose chips in private.

The means and standard deviations for current self-esteem according to dietary restraint and experimental conditions are displayed in Table 21. There were no significant differences between the groups (\(F(7,103) = 1.11, p = .37\)).

<table>
<thead>
<tr>
<th></th>
<th>Public</th>
<th></th>
<th>Private</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Carrots</td>
<td>Chips</td>
<td>Carrots</td>
<td>Chips</td>
</tr>
<tr>
<td>No Threat</td>
<td>68.58</td>
<td>(13.34)</td>
<td>66.86</td>
<td>(11.26)</td>
</tr>
<tr>
<td></td>
<td>n = 19</td>
<td>n = 9</td>
<td>n = 21</td>
<td>n = 9</td>
</tr>
<tr>
<td>Intelligence Threat</td>
<td>73.14</td>
<td>(15.01)</td>
<td>72.57</td>
<td>(11.65)</td>
</tr>
<tr>
<td></td>
<td>n = 21</td>
<td>n = 6</td>
<td>n = 14</td>
<td>n = 12</td>
</tr>
<tr>
<td></td>
<td>72.00</td>
<td>(13.27)</td>
<td>63.58</td>
<td>(11.80)</td>
</tr>
<tr>
<td></td>
<td>(17.74)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discussion**

We predicted that participants who experienced an intelligence threat and then selected a snack in the Public condition (informing the experimenter of which snack they would taste and rate) would choose the healthy snack more often than the unhealthy snack in order to convey a positive impression to the experimenter. Participants in the Intelligence threat condition who had the opportunity to taste and rate a snack in the Private condition were expected to choose the unhealthy snack more often than the healthy snack because they do not have to portray a positive impression to others. Those who did not experience a threat were expected to choose the chips more often than the carrots regardless of whether they were in the Public or Private condition (perhaps not as often as those who experienced a threat and were making a private choice). When analyzing the data we found that there was no significant difference between those in the Public condition who experienced a threat or
no threat; participants chose carrots more often. Those in the Intelligence threat condition were more likely to choose carrots in the Public condition and were equally likely to choose carrots and chips in the Private condition, suggesting that impression-management strategies were implemented when participants were in the Public condition. Perhaps participants wanted to convey to the experimenter positive attributes and therefore chose the carrots more often. During Experiment 3 both of the snacks were in the room when the participants made their choice, whereas during Experiments 1 and 2 the experimenter brought the only the selected snack. Having both of the snacks present may have served as a cue to select the healthy (carrots) snack more often.

In regards to restraint level, in Experiment 1 restrained eaters were more likely to choose a healthy snack after experiencing an ego threat whereas in Experiment 2 both restrained and unrestrained eaters chose to eat a healthy snack after they experienced an intelligence threat. Therefore, we hypothesize that restrained and unrestrained eaters would respond in the same manner in the present study and choose a healthy snack after experiencing an ego threat in the public condition. However, we found that restrained eaters experiencing a threat chose carrots more often when their choice was public and chips more often when their choice was private. Unrestrained eaters in Experiment 3 chose carrots more often regardless of whether they experienced a threat or not and whether they made a public or private choice. We hypothesize that restrained eaters are either: (a) choosing carrots more often in the Public threat condition to convey a positive impression or (b) choosing chips more often in the private threat condition in hopes of improving their mood. Bingeing is a coping mechanism for binge eaters because it reduces anxiety in the short-term. However, it does not improve
mood in the long-term. Binge eaters report higher rates of depression and anxiety compared to non-binge eaters (see Heatherton & Baumeister, 1991 for a review).

In order to determine whether mood and self-esteem of the participants were affected by the threats, mood and state self-esteem were measured after participants tasted and rated the snack. We predicted that participants who experienced an ego threat should report lower self-esteem compared to those who do not experience an ego threat. We found that those who experienced a threat and chose carrots in private reported a more positive mood compared to those who experienced a threat and chose chips in private. These findings need to be examined with caution due to the small sample size. The high positive mood ratings of those who were threatened and made a private choice of carrots may be a result of the participants feeling good about themselves for choosing the healthy item even though no one else knew about their choice.

Dieters believe that eating unhealthy foods will result in improved mood but it doesn’t actually improve their mood. This finding is consistent with the evidence that the comfort hypothesis (i.e., eating may provide comfort and ease distress) is not empirically supported (Polivy & Herman, 1999). Dieters are more susceptible to dietary inhibitors (Heatherton & Polivy, 1992), such as an ego threat, and make attempts to escape from the aversive sense of self-awareness when experiencing an ego threat by engaging in overeating (Heatherton & Baumesiter, 1991). It is plausible that the threatened dieters chose chips in attempt to escape from their aversive sense of self. When dieters are threatened and choose a healthy food item in private they report a positive mood. We infer that this is the case because by choosing the healthy item they maintained their diets; therefore, they feel good and proud (high positive mood) about themselves.
Limitations

A major limitation is the small sample due to logistical constraints. The findings need to be examined with caution due to the lack of power for the analyses. Additional analyses were not conducted due to the small sample size.

The intelligence and stress ratings consisted of only one item and therefore did not provide enough information in order to make comparisons between the participants.

Overall, the restrained eaters did respond as if the threat manipulation worked. It is possible the restrained eaters are more sensitive and were more likely to respond to the threat than were the unrestrained eaters. In Experiment 1 the restrained eaters responded to the threat and in Experiment 2 the restrained eaters responded to the femininity threat unlike the unrestrained eaters. This finding supports the research (Heatherton & Polivy, 1992) that restrained eaters may be more sensitive to ego threats.
Chapter 5

General Discussion

People are constantly managing the impressions they make by using various strategies (Schlenker, 1982) in order to please their audience and construct their public self (Baumeister, 1980). The purpose of this series of studies was to determine under which conditions choice of food type versus amount of food eaten are employed as impression-management strategies after ego threats. A secondary goal was to determine whether restrained and unrestrained eaters (dieters and non-dieters) utilize the same impression-management strategies. Three experimental studies tested the conditions under which females use food selection and amount of food eaten as impression-management strategies. Two surveys examined judgments of others based on food type and portion size. Experiment 1 found that female dieters defied the experimenter after experiencing an ego threat and selected a healthy snack more often than an unhealthy snack. Experiment 2 found that when participants are not under pressure to select a specific snack, both restrained and unrestrained eaters choose a healthy snack more often after experiencing an intelligence threat. In Experiment 3 most participants chose a healthy snack except for those dieters who experienced a threat and made a private snack choice. When threatened dieters were given the opportunity to choose a snack in private (without the experimenter’s knowledge), a pattern emerged such that they chose chips more often.

It is evident that females use food selection as an impression-management strategy. Do they alter how much they eat as a supplementary strategy? The results of Experiments 1 and 2 found that amount of food eaten is probably not an impression-management strategy used when food selection is an option. Experiencing an ego threat and then selecting a
healthy or unhealthy food did not seem to influence amount of food eaten (though the cell
n’s were so small that there was unlikely to be enough power to detect anything but a
massive difference).

The surveys supported the finding that men and women make judgments about a
female target on the basis of type of food she selects versus the amount she consumes. We
may infer that if people have the choice of using type versus amount of food as an
impression-management strategy, they will choose type. Some research has found that
females use amount of food consumed as an impression-management strategy. For example,
women ate less M&M’s (Mori et al., 1987) and crackers (Pliner & Chaiken, 1990) in order to
convey femininity or another desired impression. Participants in these studies, however, had
no choice regarding type of food; thus, they could only alter how much food they consumed
as an impression-management strategy. Those who eat healthy food items are rated as more
feminine, intelligent, attractive, likeable, moral, and healthier than are those who eat
unhealthy food items (Stein & Nemeroff, 1995). Female targets who eat smaller amounts are
rated as more feminine, physically attractive, neater, (Bock & Kanarek, 1995; Chaiken &
Pliner, 1987), and socially appealing (Basow & Kobrynowicz, 1993) than are those who eat
larger amounts. Both selecting a healthy food item and eating a small amount result in a
favorable impression. In the present research, when females were given the choice of using
food type versus amount of food (or both) as impression-management strategies, food type
was chosen.

Few studies have examined food selection as an impression-management technique.
Pliner and colleges (2009) threatened (or not) the creativity, social sensitivity, and cognitive
performance of participants and then gave them the choice of one of seven versions of
lasagna. The seven versions differed in terms of their caloric or nutritional content. The participants’ food choice was obvious to the confederate. Restrained eaters in the threat condition chose a more nutritionally beneficial version than did those in the no threat condition. The unrestrained eaters showed a similar pattern but it was not statistically significant. The researchers hypothesized that the threatened participants selected the nutritionally beneficial lasagna in an attempt to compensate for their negative feedback and convey that they were making an intelligent food choice (Pliner et al., 2009). The pattern of results is similar to the findings in Experiments 1 and 2.

When deciding between two options, one option may be more salient. In regards to portion size, people often follow the lead of those with whom they are eating (Hermans, Larsen, Herman, & Engels, 2009), looking to others to determine how much is appropriate to eat in a given situation (Herman et al., 2003; Vartanian, Sokol, Herman, & Polivy, 2013). This implies that determining how much to eat may be difficult. Leone, Pliner, and Herman (2007) found that when norms are ambiguous, individuals are less likely to follow a pattern. Perhaps food type is more salient and less ambiguous than is determining the appropriate amount of food to eat in a dining situation; therefore, people may be more likely to select a specific food in order to convey a desired impression.

**Ego Threats**

For chronic dieters, attempting to convey a positive impression may prevent them from selecting unhealthy foods. Ego threats usually result in dietary disinhibition amongst restrained eaters (Heatherton, Herman, & Polivy, 1991). The ego threats in this series of studies tended to have a stronger effect on restrained eaters than they did on unrestrained eaters. In Experiment 1 only restrained eaters defied the experimenter by choosing a healthy
snack after the ego threat. In Experiment 2 the restrained eaters showed a pattern of choosing a healthy snack after both the intelligence and femininity threats. In Experiment 3 the threatened restrained eaters displayed a pattern of choosing the unhealthy snack in the private condition. Restrained eaters have lower self-esteem than do unrestrained eaters (Polivy, Heatherton, & Herman, 1988) and are more susceptible to dietary disinhibitors such as ego threats (Heatherton, Polivy, & Herman, 1990). Researchers have hypothesized that restrained eaters cope with ego threats by eating more unhealthy foods as an escape from self-awareness (Heatherton & Baumeister, 1991). Past ego threat studies were “private,” with the participants believing that the experimenter was unaware of how much they ate, whereas in the current series of studies the food choice was clearly evident to the experimenter. As well, it was obvious to the participants that the experimenter was aware of the negative feedback that they had received. Perhaps the presence of the experimenter prevented the restrained eaters from engaging in their usual behavior of becoming disinhibited and eating more of the unhealthy snack. In the public conditions, restrained eaters stuck to their diets and chose carrots. The presence of the experimenter, or another person, helped the restrained eaters to stick to their diets. The presence of another person has such a strong effect that it can alter what and how much a person eats. For example, eating in the presence of a non-eating observer results in a person eating much less (Conger et al., 1980), as does eating with a model who eats a small amount (Nisbett & Storms, 1974). Eating in the presence of a model who eats a large amount will result in a person eating a large amount (Nisbett & Storms, 1974). Even though the restrained eaters are more susceptible to ego-threats, they stuck to their diets and chose the healthy snack when the experimenter was present.

Disordered Eating
There are similarities between restrained eaters and those diagnosed with binge eating disorder or bulimia nervosa. Both restrained eaters and those who binge eat have low self-esteem, body image dissatisfaction, and increased emotionality (Polivy & Herman, 1995). Individuals diagnosed with Bulimia Nervosa engage in binge eating episodes when alone, in secret (Igoin, 1979; Palmer, 1979), because they are ashamed of eating such large portions and fearful of being judged by others (Broussard, 2005). They also choose to eat more snacks and desserts and less fruits and vegetables during binge eating episodes (Rosen, Leitenberg, Fisher, & Khazam, 2006). In addition, binge episodes are more likely to occur when one is experiencing negative affect (Crosby et al., 2007). The threatened restrained eaters in Experiment 3 showed a similar pattern and chose the unhealthy snack when alone, in private. In the current series of studies, however, restrained eaters did not become disinhibited after experiencing ego threats and instead stuck to their diets when they made a public choice in Experiment 1 and 2. Such findings can help to create interventions for those who become disinhibited and break their diets. It is likely that eating with others helps those select healthier food options. Binge eaters can each with others as a strategy to prevent binge eating.

**Limitations**

There are numerous limitations of this series of studies. First, generalizability is limited because the three experiments were conducted exclusively with female undergraduate students. It remains unclear how males or older females would behave under the same or similar circumstances. In addition, most of the participants self-identified as of Caucasian or Asian descent. The past literature on eating behaviour involved mostly females who identified as Caucasian; therefore, it is difficult to generalize the eating literature for other
ethnicities. One’s culture may well influence which impression-management strategies are implemented in various situations. It is plausible that the participants of Asian or African descent did not use the selection of carrots as a way to convey a positive impression; instead they may have attempted to use other strategies (which we did not assess) in order to convey a positive impression. Participants in Experiment 2 who identified as of Asian descent were less likely to choose carrots after an ego threat, unlike the participants who identified as of Caucasian descent.

The findings from Experiment 1 and 2 that threatened participants chose carrots more often were not replicated in Experiment 3. Instead, in Experiment 3 most of the participants chose carrots more often. This may be because the food was presented differently in Experiment 3. In Experiment 3 the food was in the experimental room with the participant, whereas in Experiments 1 and 2 the experimenter brought only the chosen snack to the participant. Perhaps having the food present from the beginning influenced food choice as it may be a cue to select the healthy option.

Another major limitation is the small sample sizes in the experiments. Logistical constraints, such as lack of access to participants, low enrollment, and volunteer schedules prevented larger recruitment for the experimental studies. Findings that were only marginally significant might have reached significance if larger sample sizes had been used. A small sample size gives us little power to reject the null hypothesis and provide reliable answers to the question being investigated, whereas a large sample size gives us more statistical power and increases the probability of correctly rejecting the null hypothesis. Caution needs to be used when interpreting the data from small samples.

Alternative Explanations
Pliner et al. (2009) hypothesized that restrained eaters used food choice as a means to compete with the other woman present in order to restore their sense of self-regard. In the present series of studies the participants were unaware of the “other participants”’ food choice and therefore, did not make a decision based on competition. Participants may be choosing a healthy snack in order to restore their self-concept. Self-affirmation theory posits that when one domain is threatened, individuals will compensate and are motivated to promote other domains in order to protect their self-regard (Steele, 1988). However, restrained eaters usually become disinhibited after experiencing ego threats, which is not a behavior that results in increased self-affirmation. On the contrary, disinhibition results in increased negative emotions (Haedt-Matt & Keel, 2011). It is unlikely that participants in this series of studies were engaging in self-affirmation because in Experiment 3 when threatened restrained eaters ate in private they were more likely to disinhibit and choose the unhealthy snack as opposed to when they made their choice in public and chose the healthy snack more often. Making a public choice alters the behavior, indicating that participants were engaging in impression-management and not for self-enhancement purposes, such as self-affirmation, when selecting the healthy choice.

**Future Research**

Future research should attempt to determine if in fact food type is more salient than is portion size. Results from this series indicate that people use food selection more often that amount of food eaten as impression-management techniques but these results should be replicated and tested outside of the laboratory. An additional area to examine is the motivations of using food choice as an impression-management strategy and what types of
impressions participants are attempting to convey. It is important to understand the motivations leading to the behaviours and how individual food intake is affected.

**Conclusion**

In sum, if one has the choice of selecting a specific food or eating a specific amount of food when attempting to convey a specific impression, the present data suggest that female university students, especially chronic dieters, are more likely to use food selection. When females, especially dieters, are eating in the presence of others, this approach to impression management might be used to prevent them from selecting the unhealthy snack and potentially stop them from breaking their diets.
References


Appendices

Appendix A – Consent Form Experiment 1

You are invited to participate in a study conducted by Lisa Lipschitz under the supervision of Professor C.P. Herman. This study is being carried out as part of a doctoral dissertation. The general purpose of the study is to learn more about how people evaluate different modalities, including interpersonal and sensory evaluations. You have been invited to participate because you are in the Psychology 100 participant pool and have indicated your willingness to participate in experiments for credit or for pay.

The experimental procedure will involve the following activities: 1) you will complete information sheet, 2) your information sheet will be exchanged with a second participant and you will evaluate the second participant, 3) you will rate a sensory object, and then 4) you will complete a number of questionnaires in which you will provide some information on demographics and personality characteristics. The experiment should take approximately 45 - 55 minutes to complete.

Your participation in this experiment is voluntary. You are free at any time to refuse to participate and you may withdraw at any time without penalty or loss of benefits to which you are otherwise entitled (i.e. experimental credit or financial compensation). You may refuse to complete any entire questionnaire and/or you may omit any specific item(s). The experimenter will provide a more detailed description and explanation of the study once it is over; however, if at any point during the session you have questions, you should feel free to ask them.

The information obtained from you during this session will be available only to research personnel who are involved in this project. Your name will not appear on any of the questionnaires that you complete; rather, your materials will be identified with a code number. The key relating your name to the code number will be stored separately from the data in a locked facility to which only the supervising professor and the experimenter will have access. When the results of the study are presented and/or published, only grouped data will be provided; no individual participant will be identifiable.

There are no other obvious risks to you of participation in the study except that the tasks might be potentially upsetting for some participants. If this is the case you will be able to talk to the experimenter about it. There are no anticipated direct benefits other than educational ones. You will receive a copy of this consent form for your own records. If you have any questions about the experiment after you leave, you should feel free to contact the researcher or the supervisor by email at the following addresses: Lisa Lipschitz (PhD student/researcher), lisa.lipschitz@utoronto.ca or C.P. Herman (supervisor), herman@psych.utoronto.ca. If you have questions about your rights as a research subject, please contact the Ethics Review Office at 416-946-3273 or email: ethics.review@utoronto.ca.

I agree to participate in the study described in this consent form.

Please print name  Signature    Date
Appendix B - Demographic sheet

Please answer the following questions:

1. Age: __________________  2. Gender: __________________

3. Race/ethnicity (circle all that apply):  a. African American  b. East Asian/Pacific Islander
c. Hispanic  d. Middle Eastern  e. First Nations  f. South Asian/Indian  g. Caucasian
h. Other (please describe) ____________________________________________

4. Year in University: __________________

5. University Major:

________________________________________________________________________

6. List your hobbies:

________________________________________________________________________

________________________________________________________________________

7. List your favorite holiday:

________________________________________________________________________

________________________________________________________________________

8. Describe a typical day in your life:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

9. Describe what you usually do on the weekends:

________________________________________________________________________

________________________________________________________________________

10. Name (write their initials only) someone you look up and describe why you look up to them:

________________________________________________________________________
Appendix C - Questionnaire – Rating the other participant

What is your overall impression of the other participant?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

Do you get the impression that the other participant is studious?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

Do you get the impression that the other participant is social?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
Appendix D – Snack Rating Sheet

Taste Ratings

How salty in the snack?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all salty</td>
<td>Very salty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How sweet is the snack?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all sweet</td>
<td>Very sweet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How crunchy is the snack?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>7</th>
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<tbody>
<tr>
<td></td>
<td>Not at all crunchy</td>
<td>Very crunchy</td>
<td></td>
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How bitter is the snack?

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<th>7</th>
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<tbody>
<tr>
<td></td>
<td>Not at all bitter</td>
<td>Very bitter</td>
<td></td>
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How sour is the snack?

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<tbody>
<tr>
<td></td>
<td>Not at all sour</td>
<td>Very sour</td>
<td></td>
<td></td>
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How good-tasting is the snack?

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<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>Extremely good</td>
<td></td>
<td></td>
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</tbody>
</table>
Appendix E – The State Self-Esteem Scale

This is a questionnaire designed to measure what you are thinking at this moment. There is, of course, no right answer for any statement. The best answer is what you feel is true of yourself at this moment. Be sure to answer all of the items, even if you are not certain of the best answer. Again, answer these questions as they are true for you RIGHT NOW.

1 = Not at All
2 = A Little Bit
3 = Somewhat
4 = Very much
5 = Extremely

1. I feel confident about my abilities.

1 2 3 4 5

2. I am worried about whether I am regarded as a success or failure

1 2 3 4 5

3. I feel satisfied with the way my body looks right now.

1 2 3 4 5

4. I feel frustrated or rattled about my performance.

1 2 3 4 5

5. I feel that I am having trouble understanding things that I read

1 2 3 4 5

6. I feel that others respect and admire me.

1 2 3 4 5

7. I am dissatisfied with my weight.

1 2 3 4 5

8. I feel self-conscious.

1 2 3 4 5
9. I feel as smart as others.

1  2  3  4  5

10. I feel displeased with myself.

1  2  3  4  5

11. I feel good about myself.

1  2  3  4  5

12. I am pleased with my appearance right now.

1  2  3  4  5

13. I am worried about what other people think of me.

1  2  3  4  5


1  2  3  4  5

15. I feel inferior to others at this moment.

1  2  3  4  5

16. I feel unattractive.

1  2  3  4  5

17. I feel concerned about the impressions that I am making.

1  2  3  4  5

18. I feel that I have less scholastic ability right now than others.

1  2  3  4  5
19. I feel like I'm not doing well.

1 2 3 4 5

20. I am worried about looking foolish.

1 2 3 4 5
Appendix F – PANAS-X – Mood Scale

This scale consists of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

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<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>very slightly or extremely not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td></td>
</tr>
</tbody>
</table>

___ relaxed
___ distressed
___ droopy
___ excited
___ annoyed
___ serene
___ upset
___ bored
___ calm
___ satisfied
___ guilty
___ tense
___ at ease
___ enthusiastic
___ proud

___ irritable
___ tired
___ strong
___ sluggish
___ ashamed
___ at rest
___ inspired
___ stressed
___ nervous
___ self-conscious
___ determined
___ pleased
___ jittery
___ irritated
___ drowsy
Appendix G – The Restraint Scale

The following questions refer to your normal eating pattern and weight fluctuations. This does not include pregnancy and illness. Please answer accordingly. Circle the best answer for each question.

1. How often are you dieting?
   Never       Rarely       Sometimes       Usually       Always

2. What is the maximum amount of weight (in pounds) you have ever lost in one month?
   0-4       5-9       10-14       15-19       20+

3. What is your maximum weight gain (in pounds) within a week?
   0-1       1.1-2       2.1-3       3.1-5       5+

4. In a typical week, how much does your weight fluctuate?
   0-1       1.1-2       2.1-3       3.1-5       5+

5. Would a weight fluctuation of 5 pounds affect the way you live your life?
   Not at all       Slightly       Moderately       Very Much

6. Do you eat sensibly in front of others and splurge alone?
   Never       Rarely       Often       Always

7. Do you give too much time and thought to food?
   Never       Rarely       Often       Always

8. Do you have feelings of guilt after overeating?
   Never       Rarely       Often       Always

9. How conscious are you of what you are eating?
   Not at all       Slightly       Moderately       Very Much

10. How many pounds over your desired weight were you at your maximum weight?
    0-1       1-5       6-10       11-20       21+
Appendix H - Re-consent Form

Now that the purpose of the study has been explained to me in more detail and now that I am aware of the deception that was used, I am willing to have my data used in the study.

______________________________
Please print name

______________________________
Signature

______________________________
Date
Appendix I – Debriefing Script – Experiment 1

Thank you for participating in this study. The study in which you just participated is in the general areas of social and personality psychology. You were originally told that we were interested in evaluations of different modalities. Now that the experiment is over, we would like to inform you that the main purpose of this study was to investigate if a stress reduction task reduces stress and eating. This is why you might have been given a snack to eat and then asked to taste and rate cookies. Depending on what condition you were in, you might have been told that the second participant did not think highly of you. Just so you know there was no second participant and all participants in the stressor condition were given the same false feedback. We are trying to determine if people are feeling stressed, and then eat a healthy snack, will they feel better about themselves? If they feel better about themselves, they shouldn’t eat a lot of cookies. Based on previous findings in the eating literature, we decided to use female participants and see if their stress levels would be reduced when they eat a healthy snack.

Our hypothesis is: Those who feel worse about themselves will eat more cookies and those who eat a healthy snack will feel better about themselves and will eat less cookies.

So the independent variables are whether you were told the second participant did not think highly of you or not and if you were given a healthy or unhealthy snack to eat or given no snack. The dependent variables are your mood and self-esteem ratings before you ate the cookies and how many cookies you ate. Now, of course, it may be that everyone eats the same amount of cookies. So, the final set of questionnaires you filled out at the end of the study were all intended to assess if there are personality differences, such as if people are chronic dieters or not, and your level of self-esteem.

That is what the experiment was all about. As I’m sure you noticed, there was some deception in this experiment—that is, some aspects of the study were not exactly as I originally described them. In particular, if we told you information about what the second participant thought of you, it is not true. I hope you see why we felt it was necessary to use this deception. We could not have assessed if the type of snack eaten leads to amount of cookies eaten without making the participants feel bad about themselves. When psychologists use deception in an experiment, we feel it is very important to make sure that participants understand why it was used, so if you have any questions please ask the experimenter. If you have any questions about the study or if there is anything you feel uncomfortable about please discuss this with the experimenter.

At this point, I am going to ask you to do something for us. You have just learned about the rationale for this study, our predictions about how people will behave, and the deception we used. You probably realize that if people had that information before they participated in the study, we would not be able to learn what we are trying to learn. So, please do not discuss the experiment with any of your friends who have not already been in it or others in your PSY100 class. It is important to us that our
participants do not know anything about the study before they participate. We are going to be conducting this study for most of the academic year, so, again, please do not discuss the study with anyone for whom participation is a possibility.

Now that the purpose of the study has been explained to you in more detail and now that you are aware of the deception that was used, are you willing to have your data used in this study? If so, would you please sign this “re-consent” form?

Finally, we want to thank you for your participation. We have a copy of the original consent form for you to take with you, along with a copy of the “re-consent” statement. On the consent form is the contact information for both the experimenter and for the professor supervising the project. If, at any time, you have any questions or would like to know more about this study, please don’t hesitate to e-mail either one of us.

Relevant literature:

Counselling services if you feel like talking to someone:

2. Counselling and Psychological Services: 416 – 978 – 8070 – 214 College Street
3. Centre for Addiction and Mental Health: 416 – 595 – 6111 – 250 College Street
Appendix J – Consent Form Experiment 2

You are invited to participate in a study conducted by Lisa Lipschitz under the supervision of Professor C.P. Herman. This study is being carried out as part of a doctoral dissertation. The general purpose of the study is to learn more about how people evaluate different modalities, including interpersonal and sensory evaluations. You have been invited to participate because you are in the Psychology 100 participant pool and have indicated your willingness to participate in experiments for credit or for pay.

The experimental procedure will involve the following activities: 1) you will complete information sheet, 2) your information sheet will be exchanged with a second participant and you will evaluate the second participant, 3) you will rate a sensory object, and then 4) you will complete a number of questionnaires in which you will provide some information on demographics and personality characteristics. The experiment should take approximately 45 - 55 minutes to complete.

Your participation in this experiment is voluntary. You are free at any time to refuse to participate and you may withdraw at any time without penalty or loss of benefits to which you are otherwise entitled (i.e. experimental credit or financial compensation). You may refuse to complete any entire questionnaire and/or you may omit any specific item(s). The experimenter will provide a more detailed description and explanation of the study once it is over; however, if at any point during the session you have questions, you should feel free to ask them.

The information obtained from you during this session will be available only to research personnel who are involved in this project. Your name will not appear on any of the questionnaires that you complete; rather, your materials will be identified with a code number. The key relating your name to the code number will be stored separately from the data in a locked facility to which only the supervising professor and the experimenter will have access. When the results of the study are presented and/or published, only grouped data will be provided; no individual participant will be identifiable.

There are no other obvious risks to you of participation in the study except that the tasks might be potentially upsetting for some participants. If this is the case you will be able to talk to the experimenter about it. There are no anticipated direct benefits other than educational ones. You will receive a copy of this consent form for your own records. If you have any questions about the experiment after you leave, you should feel free to contact the researcher or the supervisor by email at the following addresses: Lisa Lipschitz (PhD student/researcher), lisa.lipschitz@utoronto.ca or C.P. Herman (supervisor), herman@psych.utoronto.ca. If you have questions about your rights as a research subject, please contact the Ethics Review Office at 416-946-3273 or email: ethics.review@utoronto.ca.

I agree to participate in the study described in this consent form.

_______________________________  _______________________________  ________________
Please print name   Signature    Date
Appendix K – Debriefing Script – Experiment 2

Thank you for participating in this study. The study in which you just participated is in the general areas of social and personality psychology. You were originally told that we were interested in evaluations of different modalities. Now that the experiment is over, we would like to inform you that the main purpose of this study was to investigate if a stress inducing task affected food choice. This is why you were asked to taste and rate your choice of a snack after experiencing a threat or no threat. Depending on what condition you were in, you might have been told that the second participant did not think highly of you. Just so you know there was no second participant and all participants in the stressor condition were given the same false feedback. We are trying to determine if people are feeling stressed, and then eat a healthy snack, will they feel better about themselves? Based on previous findings in the eating literature, we decided to use female participants and see if their stress levels would be reduced when they eat a healthy snack.

Our hypothesis is: Those who feel worse about themselves will choose a healthy snack more often.

So the independent variable is whether you were told the second participant did not think highly of you or not. The dependent variables were which snack you chose, how much you ate, and your mood and self-esteem ratings. Now, of course, it may be that everyone chooses the same snack. So, the final questionnaire you filled out at the end of the study were all intended to assess if there are personality differences, such as if people are chronic dieters or not.

That is what the experiment was all about. As I’m sure you noticed, there was some deception in this experiment—that is, some aspects of the study were not exactly as I originally described them. In particular, if we told you information about what the second participant thought of you, it is not true. I hope you see why we felt it was necessary to use this deception. We could not have assessed choice of snack eaten without making the participants feel bad about themselves. When psychologists use deception in an experiment, we feel it is very important to make sure that participants understand why it was used, so if you have any questions please ask the experimenter. If you have any questions about the study or if there is anything you feel uncomfortable about please discuss this with the experimenter.

At this point, I am going to ask you to do something for us. You have just learned about the rationale for this study, our predictions about how people will behave, and the deception we used. You probably realize that if people had that information before they participated in the study, we would not be able to learn what we are trying to learn. So, please do not discuss the experiment with any of your friends who have not already been in it or others in your PSY100 class. It is important to us that our participants do not know anything about the study before they participate. We are going to be conducting this study for most of the academic year, so, again, please do not discuss the study with anyone for whom participation is a possibility.

Now that the purpose of the study has been explained to you in more detail and now that you are aware of the deception that was used, are you willing to have your data used in this study? If so, would you please sign this “re-consent” form?
Finally, we want to thank you for your participation. We have a copy of the original consent form for you to take with you, along with a copy of the “re-consent” statement. On the consent form is the contact information for both the experimenter and for the professor supervising the project. If, at any time, you have any questions or would like to know more about this study, please don’t hesitate to e-mail either one of us.

Relevant literature:

Counselling services if you feel like talking to someone:

2. Counselling and Psychological Services: 416 – 978 – 8070 – 214 College Street
3. Centre for Addiction and Mental Health: 416 – 595 – 6111 – 250 College Street
Appendix L – Consent Form for Surveys 1 and 2

You are invited to participate in a study conducted by Lisa Lipschitz under the supervision of Professor C.P. Herman. This study is being carried out as part of a doctoral dissertation. The general purpose of the study is to learn more about personality traits. By selecting the option below to participate in the study, you indicate that you agree to take part the study.

Participation in this study involves the following activities: 1) you will view pictures/read a scenario, 2) you will be asked to rate the pictures/person in the scenario on various traits, and 3) you will complete questionnaires in which you will provide some information on demographics and personality characteristics. The experiment should take approximately an hour to complete.

You will receive $0.60/hr payment through the Mechanical Turk system. Your participation in this experiment is voluntary. You are free at any time to refuse to participate and you may withdraw at any time without penalty or loss of benefits to which you are otherwise entitled (i.e., financial compensation). You may refuse to complete any entire questionnaire and/or you may omit any specific item(s). A more detailed description and explanation of the study will be provided once it is over.

The information obtained from you during this session will be available only to research personnel who are involved in this project and will remain strictly confidential. Your name will not appear on any of the questionnaires that you complete; rather, your materials will be identified with a code number given by Mechanical Turk. When the results of the study are presented and/or published, only grouped data will be provided; no individual participant will be identifiable. In accordance with guidelines set by the American Psychological Association, data from this study will be stored for five years after the publication of analyses associated with the research; after this time, questionnaire material will be destroyed.

There are no other obvious risks to you of participation in the study. There are no anticipated direct benefits other than educational ones. We encourage you to save or print a copy of this consent form for your own records. If you have any questions about the experiment after you leave, you should feel free to contact the researcher or the supervisor by email at the following addresses: Lisa Lipschitz (PhD student/researcher), lisa.lipschitz@utoronto.ca or C.P. Herman (supervisor), herman@psych.utoronto.ca. If you have questions about your rights as a research subject, please contact the Ethics Review Office at 416-946-3273 or email: ethics.review@utoronto.ca.

By selecting the option to participate in the study, you are indicating that you understand the general nature of this study, and you consent to participate voluntarily.

☐ I understand the above points and wish to continue with this study
☐ I do not wish to continue with this study

Name_______________________________________

Date____________
Appendix M - Examples of Food Pictures - Survey 1
Appendix N – Examples of Food Pictures Survey 2
Appendix O – Demographic Information – Survey 2

The following questions are designed to collect basic demographic information about the people who take part in this study. If you are uncomfortable with any of these questions, please simply leave it blank.

1. What is your religious affiliation? (Check one)

___Roman Catholic ___No religion ___United Church ___Anglican
___Baptist ___Muslim ___Lutheran ___Presbyterian
___Jewish ___Buddhist ___Hindu ___Sikh
___Greek Orthodox ___Pentecostal ___Jehovah’s Witness ___Methodist
___Aboriginal Spirituality ___Evangelical Missionary Church

Other – Please specify: ______________

2. People in Canada come from many racial or cultural groups. You may belong to more than one group on the following list. Are you…. (Circle those that apply)

Caucasian Filipino Chinese Latin American
Korean Black Arab Japanese

South Asian (e.g. East Indian, Sri Lankan, etc.)
Southeast Asian (e.g. Vietnamese, Cambodian etc.)
West Asian (e.g. Iranian, Afghan, etc.)
Aboriginal (that is, North American Indian, Métis or Inuit)

Another group – Please Specify: __________________ Don’t Know__________

2. How old are you? ______

3. What is your biological sex? (Circle one)

Male Female Other: ______________
4. Were you born in Canada? (Circle one)
   Yes           No

5. If you were not born in Canada: How many years have you lived in Canada? _______
   In what country were you born? _______________________________

6. What is your first language? ________________________________
Appendix P – Debriefing Form – Survey 2

Thank you for participating in this study. The study in which you just participated is in the general areas of social and personality psychology. You were originally told that we were interested in evaluations of personality traits. Now that the experiment is over, we would like to inform you that the main purpose of this study was to investigate if eating a small or large portion of a healthy or unhealthy food is considered positive or negative. This is why you were asked to rate pictures of food items/given a scenario with a picture of a food item and asked to rate the individual. Depending on what condition you were in, you viewed a picture of a small or large portion of a healthy or unhealthy food. We are trying to determine whether eating a small or large portion of a healthy or unhealthy food is considered positive or negative.

Our hypothesis is: Those who eat a small portion of a healthy snack are rated more positively whereas those who eat a large portion of an unhealthy snack are rated more negatively.

The independent variables are whether you view a small portion of a healthy snack, a small portion of an unhealthy snack, a large portion of a healthy snack, and a large portion of an unhealthy snack. The dependent variables are your personality ratings. Now, of course, it may be that people view others differently based on their own personality traits. So, the final set of questionnaires you filled out at the end of the study were all intended to assess if there are personality differences, such as if people are chronic dieters or not.

I’m sure you noticed, there was some deception in this experiment—that is, some aspects of the study were not exactly as I originally described them. In particular, we told you that we were assessing personality traits only and this is not true. I hope you see why we felt it was necessary to use this deception. We could not have assessed people rate others if we told you that is exactly what we were measuring. When psychologists use deception in an experiment, we feel it is very important to make sure that participants understand why it was used.

Now that the purpose of the study has been explained to you in more detail and now that you are aware of the deception that was used, are you willing to have your data used in this study? If so, would you please sign this “re-consent” form?

Finally, we want to thank you for your participation. We encourage you to save or print this document for your own records.
Appendix Q – Re-Consent Form

By selecting the option to contribute your data to the study, you indicate that you have been fully debriefed about the study and consent to the inclusion of your data in analyses associated with this study. That is, you have had an opportunity to read the debriefing information provided and you have learned about the true purpose of the study as well as the use of deception. You understand that deception was necessary for this research project and agree to allow the data collected during your participation in this study to be used in analyses, understanding that you are doing so voluntarily.

All data collected will remain strictly confidential. Only people associated with this research will see your responses. This consent form will be stored separately from the data. Your responses will not be associated with your name; instead, your name will be converted to a code number by Mechanical Turk. In accordance with guidelines set by the American Psychological Association, data from this study will be stored for five years after the publication of analyses associated with the research; after that time, questionnaire materials will be destroyed. The data will be used for scientific purposes only and any publication of these data will not contain references to your identity.

If you have any questions or concerns, you can address them to the experimenter, the student investigator, or the research supervisor. The student investigator, Lisa Lipschitz, can be reached at (416) 978-7344 or lisa.lipschitz@utoronto.ca. The research supervisors, C. Peter Herman, can be reached at (416) 978-.7608 You may contact the Office of Research Ethics at ethics.review@utoronto.ca or (416) 946-3273 if you have questions about your rights as a participant. We encourage you to save or print a copy of this form for your records.

By selecting the option to contribute your data to the study, you are indicating that you understand the true purpose and hypotheses of this study, and you consent to contribute your data voluntarily. Your signature does not constitute a waiver of any legal rights. You may choose to withdraw your data from the study at any time. Your decision whether or not to withdraw your data will not prejudice your relations with the Department of Psychology or with the University of Toronto. Choosing to withdraw will not result in any penalty and you will still receive full compensation for your participation.

☐ I understand the above points and wish to contribute my data to this study
☐ I wish to withdraw my data from this study
Appendix R – Study 3 Consent Form

You are invited to participate in a study conducted by Lisa Lipschitz under the supervision of Professor C.P. Herman. This study is being carried out as part of a doctoral dissertation. The general purpose of the study is to learn more about how people evaluate different modalities, including interpersonal and sensory evaluations. You have been invited to participate because you are in the Psychology 100 participant pool and have indicated your willingness to participate in experiments. You will receive credit toward your Introduction to Psychology course or financial compensation of $10.

The experimental procedure will involve the following activities: 1) you will complete information sheet, 2) your information sheet will be exchanged with a second participant and you will evaluate the second participant, 3) you will rate a sensory object, and then 4) you will complete a number of questionnaires in which you will provide some information on demographics and personality characteristics. The experiment should take approximately 1 hour to complete.

Your participation in this experiment is voluntary. You are free at any time to refuse to participate and you may withdraw at any time without penalty or loss of benefits to which you are otherwise entitled (i.e. experimental credit or financial compensation). You may refuse to complete any entire questionnaire and/or you may omit any specific item(s). The experimenter will provide a more detailed description and explanation of the study once it is over; however, if at any point during the session you have questions, you should feel free to ask them.

The information obtained from you during this session will be available only to research personnel who are involved in this project. Your name will not appear on any of the questionnaires that you complete; rather, your materials will be identified with a code number. The key relating your name to the code number will be stored separately from the data in a locked facility to which only the supervising professor and the experimenter will have access. When the results of the study are presented and/or published, only grouped data will be provided; no individual participant will be identifiable.

There are no other obvious risks to you of participation in the study except that the tasks might be potentially upsetting for some participants. If this is the case you will be able to talk to the experimenter about it. There are no anticipated direct benefits other than educational ones. You will receive a copy of this consent form for your own records. If you have any questions about the experiment after you leave, you should feel free to contact the researcher or the supervisor by email at the following addresses: Lisa Lipschitz (PhD student/researcher), lisa.lipschitz@utoronto.ca or C.P. Herman (supervisor), herman@psych.utoronto.ca. If you have questions about your rights as a research subject, please contact the Ethics Review Office at 416-946-3273 or email: ethics.review@utoronto.ca. I agree to participate in the study described in this consent form.

________________________  _______________________________  _________________________
Please print name  Signature     Date
### Appendix S – Manipulation Check

1. **How aware was the experimenter of your snack choice?**

<table>
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<tr>
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<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td></td>
<td>very slightly/not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
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</tbody>
</table>

2. **How obvious was your snack choice to others?**

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<th>4</th>
<th>5</th>
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<td>very slightly/not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
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</table>

3. **How private was your snack choice?**

<table>
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<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>
Appendix T – Debriefing Script for Experiment 3

Thank you for participating in this study. The study in which you just participated is in the general areas of social and personality psychology. You were originally told that we were interested in evaluations of different modalities. Now that the experiment is over, we would like to inform you that the main purpose of this study was to investigate whether people make different food choices after experiencing a stress or not and whether this choice is in public or private. This is why you were asked to taste and rate a snack. Depending on what condition you were in, you might have been told that, “The second participant got the impression that your intelligence is slightly below that of a typical U of T student”. Just so you know there was no second participant and all participants in the stressor condition were given the same false feedback. We are trying to determine when people are feeling stressed, which type of snack (healthy or unhealthy) they would choose. In addition, we would like to know whether food choice differs depending on if people are in public or private. Based on previous findings in the eating literature, we decided to use female participants and see if their stress levels would and privacy would determine which type of snack they chose.

Our hypothesis is: Those who feel worse about themselves will choose to eat an unhealthy snack if they are alone (privately) and those feel worse about themselves and are in public will choose a healthy snack.

The independent variables are: 1) whether you were told the second participant did not think highly of you or not and 2) if you made your snack choice in public (to the experimenter) or anonymously (private). The dependent variables are: 1) which snack you chose and 2) your mood and self-esteem ratings. Now, of course, it may be that everyone eats the same amount of cookies. So, the final set of questionnaires you filled out at the end of the study were intended to assess if there are personality differences, such as if people are chronic dieters or not.

That is what the experiment was all about. As I’m sure you noticed, there was some deception in this experiment—that is, some aspects of the study were not exactly as I originally described them. In particular, if we told you information about what the second participant thought of you, it is not true. I hope you see why we felt it was necessary to use this deception. We could not have assessed if stress and privacy determine snack choice without making the participants feel bad about themselves. When psychologists use deception in an experiment, we feel it is very important to make sure that participants understand why it was used, so if you have any questions please ask the experimenter. If you have any questions about the study or if there is anything you feel uncomfortable about please discuss this with the experimenter.

At this point, I am going to ask you to do something for us. You have just learned about the rationale for this study, our predictions about how people will behave, and the deception we used. You probably realize that if people had that information before they participated in the study, we would not be able to learn what we are trying to learn. So, please do not to discuss the experiment with any of your friends who have not already been in it or others in your PSY100 class. It is important to us that our participants do not know anything about the study before they participate. We are
going to be conducting this study for most of the academic year, so, again, please do not discuss the study with anyone for whom participation is a possibility.

Now that the purpose of the study has been explained to you in more detail and now that you are aware of the deception that was used, are you willing to have your data used in this study? If so, would you please sign this “re-consent” form?

Finally, we want to thank you for your participation. We have a copy of the original consent form for you to take with you, along with a copy of the “re-consent” statement. On the consent form is the contact information for both the experimenter and for the professor supervising the project. If, at any time, you have any questions or would like to know more about this study, please don’t hesitate to e-mail either one of us.

Relevant literature:

Counselling services if you feel like talking to someone:

2. Counselling and Psychological Services: 416 – 978 – 8070 – 214 College Street
3. Centre for Addiction and Mental Health: 416 – 595 – 6111 – 250 College Street