

Running head: SOCIOTROPY, DIETING AND BODY IMAGE

Sociotropy and Perception of Own and Close Friend's Dieting Behaviours and Body Image

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Thesis submitted in partial fulfillment of the requirements of the MA Clinical Psychology degree with Specialization in Women's Studies, Lakehead University, Thunder Bay, Ontario.

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Table of Contents

Abstract	8
Introduction	9
The Importance of Body Shape and Size	9
Sources of Influence on Body Satisfaction	11
The Influence of the Media	11
The Influence of the Family	13
The Influence of the Peers	14
Effect of Similarity	15
Negative Self-Synchronization	15
Summary	18
Self-Objectification	18
Dieting	20
Dieting and Eating Disorders.....	21
Effects of Dieting on Cognition.....	22
Dieting and Peers.....	23
Sociotropy	26
Dieting and/or Eating Disorders and Sociotropy	28
General Summary	29
The Present Study	30
Hypotheses.....	32
Method.....	33
Participants.....	33

SOCIOTROPY, DIETING AND BODY IMAGE	3
Measures.	34
Demographics.	34
Restraint Scale of the Dutch Eating Behaviour Questionnaire.	34
Body Appreciation Scale.	35
Sociotropy Scale of the Revised Personal Style Inventory.	36
Qualitative Questions.	37
Procedure	38
Results.	39
Overview of the Research Design	39
Quantitative Analysis Strategy.	39
Pre-Analysis Issues.	40
Missing Data and Number of Cases	40
Univariate and Multivariate outliers	41
Normality, Linearity and Homoscedasticity	42
Multicollinearity	42
Quantitative Findings.	43
Ensuring Validity of Measures.	43
Correlations among the Variables	43
Correlations of Self and Closest Friend Body Image Satisfaction	43
Correlations of Self and Closest Friend Dieting Behaviour	44
Correlations of Body Image Satisfaction, Dieting Behaviour and Sociotropy	44
Regression Analyses.	44

Moderated Regression with Dieting Data.	44
Moderated Regression with Body Image Data	45
Supplemental Analyses.	45
Qualitative Analysis Strategy.	48
Pre-Analysis Issues	48
Qualitative Data Analyses.	49
Describing the Friendship	49
Dieting.	49
Participants' Dieting	49
Participants' Closest Friend's Dieting.	50
Changes in Eating Behaviour Based on Interactions with Closest Friend.	51
Body Image	51
Participants' Body Image	51
Participants' Closest Friend's Body Image.	52
Changes in Body Image Satisfaction Based on Interactions with Closest Friend.	54
Discussion	55
Review of Study Objectives	55
Quantitative Findings.	56
Qualitative Findings	57
Body Image Satisfaction	58
Eating Behaviour.	60
Strengths and Limitations.	63

Conclusions	68
Recommendations for Future Directions.....	70
References	73
Appendix A	92
Appendix B	100
Appendix C	103
Appendix D	105
Appendix E	107
Appendix F	109
Appendix G	111
Appendix H	114

LIST OF TABLES

Table 1: Correlations and Means between Variables of the Pooled Sample 89

Table 2: Summary of Group Means, Categorized by Dieting and Body Image
Satisfaction 90

LIST OF FIGURES

Figure 1: Residual scatterplots from regression analyses of a) amount of dieting as indicated by scores on the Restraint scale of the Dutch Eating Behaviour Questionnaire; b) amount of body image satisfaction as indicated by scores on the Body Appreciation Scale 91

ABSTRACT

A woman's physical appearance has been strongly associated with her sense of self-worth and success. Moreover, through family, media and one's friends, messages of an unrealistically thin ideal body have been perpetuated, creating feelings of dissatisfaction with one's physical appearance. While the effects of family and the media on one's body image satisfaction have been well studied, the effects of one's friendship group have been less often studied, and within the adult population, such literature is almost non-existent. Moreover, body image dissatisfaction can lead to dieting behaviours, which have been associated with negative consequences for one's health; however this too, within the context of one's friendship group within adults has not been studied. Sociotropy, how sensitive one is to interpersonal interactions, has been connected to the development of eating disorders, however its use in research in this area is limited. Thus, the current study aimed to investigate the role of sociotropy in the relationship between a woman and her closest friend's body image satisfaction and eating behaviour. Analyses suggested that sociotropy plays a mediating role between these thoughts and behaviours, such that it partially accounts for the relationship between a person and her closest friend's body image satisfaction, and their dieting behaviour. Qualitative data analyses demonstrated that many women are affected by their closest friend's eating behaviours, and less directly affected by their closest friend's body image satisfaction. The implications of these results are discussed within the paper.

Sociotropy and Perception of Own and Close Friend's Dieting Behaviours and Body Image

Historically, women's importance and value has been placed on the body, while that of men has been placed on the mind (Hesse-Biber, 1996; Meskimmon, 1998). Philosophers such as Plato and Descartes described the mind as superseding the body, and posited that for one to have any knowledge, such knowledge must necessarily be divided from the body (Schultz & Schultz, 2007). Thus, women were not only relegated to being *of body*, such categorization was also associated with irrationality and lack of knowledge. In analyzing gender roles, these same beliefs endure—men are perceived as and expected to be rational, while women are expected to be emotional and irrational, in need of instruction, and therefore, obedient (Fitts, 2007). Furthermore, women are relegated to the area of the physical, suggesting that their value lies in their bodies (Fitts, 2007; Fredrickson & Roberts, 1997; Hesse-Biber, 1996). The media, family and peers further perpetuate this idea (Field et al., 2001; Hutchinson, Rapee, & Taylor, 2010; Shroff & Thompson, 2006) by asserting that women must be beautiful in order to be happy, while men can rely on their minds to achieve the same (Gerner & Wilson, 2005; Hesse-Biber, 1996; Viken, Treat, Bloom, & McFall, 2005).

The Importance of Body Shape and Size

The physical body has become a measure of value for women (Fitts, 2007; Fredrickson & Roberts, 1997). In late 20th century Western culture, beauty for women has been associated with a thin figure (Field et al., 2001; Owen & Laurel-Seller, 2000; Tiggeman & Pickering, 1996). Thus, physical attractiveness, such as being thin, is strongly associated with self-worth (Fredrickson & Roberts, 1997; Hesse-Biber, 1996). Women have also been found to associate happiness with body size, where the thinner a woman is, the happier she is (Viken et al., 2005). Moreover, physical attractiveness has also been shown to correlate highly with popularity, dating experience and marriage opportunity for women (Miner-Rubino, Twenge, & Fredrickson, 2002).

Thus, to be happy, valued, and to have positive interpersonal encounters, women often perceive thinness and physical attractiveness to be a prerequisite.

Studies have found that the waist-to-hip ratio is a major contributor to physical attractiveness (Singh, 1994). The waist-to-hip ratio represents how large or small one's waist is, in proportion to her hips—a smaller ratio represents a waist smaller than one's hips. According to Carey (2006), if the body produces enough oestrogen it should naturally fall into the healthy waist-to-hip ratio range between 0.67 and 1.18, with an ideal ratio of 0.7. Thus the ratio is thought to be an indicator of health and a physical attractiveness characteristic for mate selection. The average waist-to-hip ratio of a Playboy model or a Miss America contestant (those perceived as most attractive) is 0.68 (Carey, 2006). The average woman has a waist-to-hip ratio of 0.8 which is higher than the 0.7 or lower ratio that is said to be preferred by men (Cashdan, 2008).

With the importance placed upon women's bodies, and such messages being communicated through multiple sources (the media, family and friends), many women have developed a pursuit of thinness (Tiggeman & Pickering, 1996). An analysis performed by Hesse-Biber (1996) revealed that women's perceptions of an ideal body mass were lower than what the medical field declared to be an average healthy body weight, and such findings have been supported by others as well (Hill, 1993). Moreover, the current standard of desired thinness is virtually impossible to achieve without excessive dieting and exercising (Hausenblas, Janelle, Gardner, & Focht, 2004). The ideal body weight has been decreasing over the years (Owen & Laurel-Seller, 2000; Tiggeman & Pickering, 1996), meaning that the discrepancy between healthy body weight and ideal body weight is likely to grow. This results in women striving to be unrealistically thin in order to be desirable and successful, and engaging in behaviours such as dieting and exercise to reach these unrealistic ideals.

Sources of Influence on Body Satisfaction

Media, family and peers perpetuate messages that a thin body is ideal (Field et al., 2001; Hausenblas et al., 2004; Hutchinson et al., 2010; Shroff & Thompson, 2006). Hausenblas and colleagues (2004) explain that the three aforementioned sources of pressure to be thin (media, family, and peers) are the impetus behind an individual's need to conform to unrealistic body shape standards. These three sources do not act as independent agents to influence a woman's body image—the media offers images which peers and families accept as ideal, and such acceptance of ideal also shape the media. Moreover, how an individual interprets messages from all three of these sources is largely dependent on her personality and how much she is affected by others. This will be further elaborated upon in a later section.

The influence of the media. Many studies have demonstrated that media can elicit feelings of unhappiness and dissatisfaction towards one's body (Diedrichs & Lee, 2010; Field et al., 2001; Hausenblas et al., 2004; Mikie, 1999; Tiggeman & Pickering, 1996), and some have proposed this to be an explicit effort (Hesse-Biber, 1996). The body sizes that are most often seen and displayed in a favourable manner in the media are those of ultra-thin individuals, and this level of thinness is also often unhealthy and clinically underweight (Ahem, Bennett, & Hetherington, 2008; Owen & Laurel-Seller, 2000). For example, one study demonstrated that 99% of Playboy centrefolds from 1980 to 1996 and 100% of Miss America pageant winners from 1953 to 1985 were clinically underweight with body mass indices (BMI) less than 20, and many below 18 (Spitzer, Henderson, & Zivian, 1999). Spitzer et al (1999) further demonstrated that the BMI of Miss America pageant winners has been steadily decreasing and that many of these women have exercised between 14 and 35 hours a week. Playboy centrefolds have also been found to be severely underweight when compared against the World Health Organization

cut-off of a BMI of 18.5, which marks malnutrition and chronic energy deficiency (Owen & Laurel-Seller, 2000).

According to Hesse-Biber (1996), the media not only contributes to body dissatisfaction in women but also recommends marketing tools that can be used to meet the unrealistic ideals, such as cosmetic surgery, the use of dieting and weight loss companies, low fat foods, and low - effort-high-result exercise mechanisms (Hesse-Biber, 1996). Hesse-Biber also asserts that the media contributes to excessive weight gain in society through cheap over-indulgent marketing tools such as “supersizes” and “biggies” of fast food. Thus, society is sent mixed messages: one should over-indulge in order to enjoy life, but one is not good enough because of over-indulging. While Hesse-Biber’s analysis highlights many informative points regarding the role that the media plays, she also downplays the role of personal agency and people’s ability to think critically and make decisions for themselves, thereby describing people as akin to puppets that are at media’s mercy.

However, not all individuals blindly follow the media’s messages and many are aware of the unrealistic portrayal of women in the media. Even so, the media continues to negatively affect how women feel about themselves. A qualitative study (Milkie, 1999) with adolescents in Grades 9 and 10 showed that most of the study participants described the women depicted in magazines as “too perfect, especially in body shape, weight, hair, facial features, and complexion...not merely as unrealistic, but as artificial” (p. 198). The participants also disliked the fact that these images deviated so extensively from reality, and explained that the unrealistic images were a problem for themselves. However, despite their negative interpretation of the female image in the media, many of the participants, especially those who were Caucasian, used these images as a means of assessing their own bodies, and wanted to look like the women in the

images. Part of the reason behind this desire was the perception that such idealized appearances were valued by their peers in school, especially by their male peers. Thus, despite the recognition that the media promoted an unrealistic portrayal of women's appearance, young adolescent women still used these images as a standard with which to compare their own appearance, believing that one's peers adhere to these same standards.

Thus, it is clear that images and messages communicated through the media influence the way individuals perceive themselves and the world around them. Moreover, regardless of one's conscious recognition of the unrealistic ideals of physical attractiveness perpetuated in the media, the individual is still likely to be influenced by the media's images.

The influence of the family. The family represents an important social institution through which behaviour, attitudes and values are conveyed over time. Much literature has demonstrated how families are the primary influencers of children through modelling and social learning, and positive and negative reinforcements (e.g., Field et al., 2001; Kluck, 2010; Neumark-Sztainer et al., 2010; Pike & Rodin, 1991). Kluck (2010) explored the culture of the family in relation to its emphasis on appearance, thinness, eating and weight, and how these contribute to the development of body image dissatisfaction. Specifically, comments and criticisms about a daughter's appearance are strongly linked with the development of low body satisfaction (Kluck, 2010). Encouragement to diet, even when carried out in a caring and concerned manner, can contribute to negative body image (Kluck, 2010) and to the development of disordered eating (Shaw, Stice, & Springer, 2004). Moreover, it is not solely through direct messages to daughters that they can be affected by parental beliefs. For example, it is well-known within the literature that mothers who diet or who are critical of their own body shapes and/or sizes are more likely to have daughters with low body satisfaction and who are more at

risk for developing an eating disorder (Hesse-Biber, 1996; Pike & Rodin, 1991). However, at the beginning of emergent adulthood (from 18 to 25 years old) and earlier, individuals are more likely to distance themselves physically and emotionally from their parents, and engage in more peer-related activities (Arnett, 2000). Thus, the influence of parents and the family culture on a woman's body image dominates during her early years of development but when she becomes a young adult, she is more likely to be influenced by her peers and to engage in similar activities to them. For a review of the literature on the influence of parents on disordered eating, the reader is directed to Graber, Archibald and Brooks-Gunn (1999).

The influence of peers. Although the family plays a large role in the development of self-esteem and body image in childhood, its influence decreases as the young individuals grow up and spend more time away from home, and have more unsupervised contact with their peers (Fuligni & Eccles, 1993). The young individuals also tend to place greater value upon the approval, views, and advice of their peers (Fuligni & Eccles, 1993). By adolescence and early adulthood, they are likely to be relying more on peers for acceptance and belonging.

The need for humans to form social relationships and to have a sense of belongingness are powerful and pervasive (Baumeister & Leary, 1995). It should therefore not be surprising that much of what humans do is done in the service of promoting belongingness (Baumeister & Leary, 1995). Hence there is a preference for success that will be validated, recognized and valued by others, as opposed to solitary gains (Baumeister & Leary, 1995). Moreover, humans tend to avoid the breaking of bonds (Baumeister & Leary, 1995), and will sometimes go to extreme lengths in order avoid such loss. There are several hypothesized mechanisms to explain how individuals form and maintain friendships. Although it is not clear whether individuals are attracted to others similar to themselves or whether they modify their behaviour and attitudes to

conform to potential or existing friends (Woelders, Larsen, Schoite, Cillessen, & Engels, 2010), some self-modifying thoughts and behaviours seem to be at play.

Effect of similarity. It is known that individuals are more likely to choose peers who are similar to themselves (Neimeyer & Mitchell, 1988). According to social comparison theory, individuals are less attracted to those who have divergent abilities, opinions, emotional states, self-descriptions and economic statuses than one's self (Byrne, Griffitt, & Stefaniak, 1967). When an individual thinks or behaves in a similar manner to oneself, it is a positive reinforcement to the self—knowing that others are thinking and behaving in a similar manner confirms normalcy and acceptance (Byrne et al., 1967). When an individual categorizes someone similarly to how she categorizes herself, she is more likely to choose that individual as an acquaintance. Such choice of peers on the basis of similarity has been demonstrated throughout several areas of study. For example, depressed adults are likely to select other depressed adults as friends, and are more likely to respond in a favourable manner to social interactions involving similarly depressed partners (Stevens & Prinstein, 2005). Another example of peer choice through similarity would be that obese individuals are more likely to form friendships with people of a similar weight and/or body shape (Christakis & Fowler, 2007). Affiliating with individuals who are similar to oneself provides a sense of predictability within social interactions, and thus security in one's environment (Byrne et al., 1967). Such interpersonal stability is comforting to most, and it is therefore sought. However, much of the research that exists in this area is not always consistent in their findings (Neimeyer & Mitchell, 1988), suggesting complexity in friendship choice.

Negative self-synchronization. Social synchronization is the process by which individuals change their behaviours or attitudes to increase their similarity to other social targets

in order to strengthen social bonds or seem more socially desirable (Gabriel, Kawakami, Bartak, Kang, & Mann, 2010). When individuals engage in the same positive behaviours displayed by others (e.g., trying a new sport that their friends are playing), they are said to be engaging in positive self-synchronization. When they engage in unfavourable changes (e.g., using illicit drugs because their friends are doing the same), they are said to be engaging in negative self-synchronization. The likelihood of individuals engaging in negative self-synchronization is believed to be related to attachment security (Gabriel et al., 2010). Those with secure attachments have had positive experiences in forming relationships in the past, and are therefore more likely to expect positive outcomes from new relationships (Gabriel et al., 2010). Unfortunately, these same individuals are also more likely to engage in negative self-synchronization when they associate with peers who engage in negative behaviours because they have more confidence that interactions with these individuals will be rewarding (Gabriel et al., 2010). On the other hand, individuals who are low in attachment security tend to doubt that others can be trusted, and may believe that they are less likely to be accepted by others. Therefore they are more likely to exhibit defensive self-protection, have less confidence that new interactions will be rewarding and are less likely to engage in negative self-synchronization (Gabriel et al., 2010).

Some individuals are willing to go extremes to develop and maintain social relationships. For example, there is a greater likelihood of expressing self-denigrating comments when engaged in conversations with others who degrade themselves. This has been demonstrated through the “fat talk” phenomenon in which one is more likely to verbalize lower body esteem when interacting with another with low body image, regardless of how one might actually feel about one’s own body (Tucker, Martz, Curtin, & Bazzini, 2007). Discussions about body image

dissatisfaction often occur within groups of women (Tucker et al., 2007). Given that many women are dissatisfied with their bodies (Hesse-Biber, 1996; Liechty, 2010; Sabik, Cole, & Ward, 2010; Sheldon, 2010), it is likely that a sense of body dissatisfaction spreads to others through these interpersonal processes. Women likely engage in “fat talk” as a means of belonging, but in the process of comparing themselves with others (both real and ideal-media others), they are also likely to perceive themselves as inadequate (Tucker et al., 2007). Another example of negative self-synchronization includes dieting in order to improve friendships. Gerner and Wilson (2005) found that regardless of body size, girls who believed that thinness would improve their friendships were more likely to diet and be concerned with their weight. Interestingly, the authors noted that thinness was not a precondition for social acceptance; however, the girls still feel it to be necessary to develop and maintain friendships. Thus, women are willing to change their physical appearance, to diet, to falsely present how they perceive themselves and to self-denigrate, in order to develop and maintain friendships. In other words, they engage in negative self-synchronization to develop and preserve the friendship.

Individuals and friendships are complex in that there are many characteristics of others with which one could align themselves. Thus, in aiming to understand why peer groups are similar, both self-synchronization (i.e., changing one’s self to be similar to others) and peer similarity (i.e., selecting friends that are similar) may simultaneously be in effect. This has been demonstrated in the literature. For example, while it is common for depressed individuals to choose others who are depressed as friends, it also suggests that having peers who have depressogenic attributes increases the likelihood of one’s self developing depressive symptoms eventually (Stevens & Prinstein, 2005). Moreover, while individuals who are obese are more likely to associate with others who are obese, a person’s chances of becoming obese are

increased if they have a friend who is obese (57%), a sibling who is obese (40%), or a spouse who is obese (37%; Christakis & Fowler, 2007). When understanding peers' influences on behaviour, it is important to consider not only how individuals choose their friends but the desire for the individual to conform to peer expectations and ideals. Only by understanding the complexities of both these mechanisms and their interactions can the influence of peers on dieting behaviour be holistically explored.

Summary. Messages about ideal body shape and size are conveyed through the media, family and peers. Such messages are communicated through images, conversation, comparison, and implicit social ideals. Considering the importance of belongingness and acceptance (Baumeister & Leary, 1995), individuals have a desire to satisfy the expectations and ideals of others. Regardless of how one chooses their peers, acceptance by others seems to be a factor—thinness is an expectation of society and is thought to be a prerequisite to normalcy and attractiveness, and thus this is what individuals strive for. Being surrounded and bombarded by such messages everyday, individuals are likely to internalize such messages.

Self-Objectification

It is not solely through society's explicit biases towards thinness that women feel a need to be thin. Many women have internalized society's standard of physical attractiveness because they believe that their primary means of value is through their body and body parts that can be used by others (Fredrickson & Roberts, 1997; Peterson, Grippo, & Tantleff-Dunn, 2008).

Fredrickson and Roberts (1997) elaborated that the most subtle way that sexualized heterosexual objectification occurs is through the gaze, or the visual inspection of the body. Research has demonstrated that men visually inspect women more often, and that within the media, men are portrayed as gazing at women more often as well (Fredrickson & Roberts, 1997). As such, it is

considered more socially acceptable for men to critically evaluate women's bodies than vice versa, and women are more used to being objectified than are men. Fredrickson and Roberts go on to state that "the cultural milieu of objectification functions to socialize girls and women to, at some level, treat *themselves* as objects to be looked at and evaluated. In other words....women often adopt an observer's perspective on their physical selves" (p. 177). This is known as self-objectification theory, and is thought to persist for most, if not all, women, regardless of race, age, class, etc. (Fredrickson & Roberts, 1997). Some research suggests that culture may be a protective factor to the development of thin ideal, and thus self-objectification would not have the same effect (Abrams, Allen, & Gray, 1993; Milkie, 1999; Roberts, Cash, Feingold, & Johnson, 2006). However, this is dependent upon the extent to which individuals associate with the mainstream body image ideal and how they relate their body appearance to their self-worth (Sabik et al., 2010). As such, how women perceive they will be judged by others largely contributes to how they perceive themselves, physically as well as their identity as a whole (Fredrickson & Roberts, 1997).

Moreover, Harper and Tiggemann (2008) described that exposure to thin images can lead to higher levels of trait (i.e., long-term and stable) self-objectification and body dissatisfaction. This means that looking at thin women makes the observer more conscious of the way others perceive her own body, leading her to perceive her own body in the same way, increasing her body dissatisfaction. Exposure to such images not only contributes to feelings of body dissatisfaction, but to reduced food consumption in women who believe that their bodies fail to conform to peer expectations (Harrison, Taylor, & Marske, 2006). Through the process of self-objectification in its entirety, women become more attuned to their physical selves and are more likely to self-monitor and to pay attention to themselves the way others would see them (Harper

& Tiggemann, 2008). Women who engage in such behaviours and thoughts persistently and pervasively are more likely to experience appearance anxiety, body shame, decreased intrinsic motivation and self-efficacy, disordered eating, and depression (Harper & Tiggemann, 2008; Harrell & Jackson, 2008; Munro & Huon, 2005; Piran, 2010). Thus women are more likely to change their behaviours in order to attempt to conform to society's expectations, even though such expectations, as depicted by the media, are unrealistic and almost impossible to attain. A common strategy used to achieve thinness in women is dieting.

Dieting

An individual's diet consists of the kinds of food that she habitually eats (Ackard, Croll, & Kearney-Cooke, 2002). Dieting is the explicit control and manipulation of foods consumed for a specific purpose (Ackard et al., 2002). For example Canada's Food Guide (Health Canada, 2007) suggests that women aged 19 to 50 should consume seven to eight servings of fruit and vegetables, six to seven servings of grain products, two servings of milk and alternatives, and two servings of meat and protein. Therefore, this would describe the diet of an individual who follows the suggestions of Canada's Food Guide. An individual who has adopted a vegan diet would not consume meat or animal by-products and thus their diet would be better described including these adjustments. Regardless of what specific foods individuals consume, the goal is to consume enough energy to support the body's functional requirements (Deckers, 2005). Some foods, when digested, produce more useful and efficient energy than others. Moreover, the body usually has storages of potential energy, most often in the form of fat, which can be used if the food consumed has not provided the body with enough energy to function optimally (Deckers, 2005). However, it is not only the number of calories (energy) that should be thought about when

consuming food, but the nutrition as well—the vitamins and minerals, chemicals, types of fat, etc. All of these factors should be reflected upon when choosing foods to incorporate into a diet.

Someone who is dieting, however, is following a specific, and often temporary, food regimen for a specific purpose. One of the most common purposes for changing one's diet, or "going on a diet" is for weight-loss. Hill (1993) describes dieting as "a buzz-word for aspiring to a socially-set physical agenda by means of interfering with the food supply" (p. 211). According to Ackard and colleagues (2002), most women who diet are of normal weight, and 47% of normal weight women want to diet to lose weight. Thus dieting is not reserved solely for those who are overweight (Ackard et al., 2002; Hill, 1993). Extreme strategies of weight loss which include vomiting, or taking laxatives or diet pills can lead to medical complications, severe psychosocial stress, suicidality, and other mental health problems, (Liechty, 2010). However, even individuals who take less extreme approaches to weight-loss, and engage in routine dieting may engage in dangerous behaviours. For example, 43% of adolescent girls surveyed in Minnesota reported fasting or skipping meals to control or lose weight (Ackard et al., 2002). Moreover, 22% of women surveyed engaged in behaviours such as fasting and use of appetite suppressants to lose weight (Ackard et al., 2002).

Dieting and eating disorders. Individuals who engage in routine dieting (i.e., calorie restriction, rigid food plans, and fad diets) may experience adverse health effects, such as depression. Research has also demonstrated that dieting is directly and indirectly correlated with the development of eating disorders, such that dieting has been associated with an eight-fold rise in the risk of developing an eating disorder (Patton, 1992). Ackard et al (2002) demonstrated that dieting was positively associated with symptoms of bulimia, asceticism, interpersonal distrust, difficulties with impulse regulation, interoceptive awareness, maturity fears, feelings of

ineffectiveness, perfectionism and social insecurity, all linked to eating disorders. Moreover, Ackard et al (2002) found that dieting was positively associated with affect regulation problems and negatively associated with self-esteem. Such findings support research on the dual pathway model of bulimia, which suggests that negative affect and restrained eating influence the development of bulimia (Duemm, Adams, & Keating, 2003). More specifically, they contend that restrained eating increases the probability of bulimic behaviours such as binge eating (Duemm et al., 2003; Herman & Mack, 1975), and that individuals with bulimic symptoms tend to follow restrictive eating patterns and be excessively concerned with dieting (Duemm et al., 2003). Dieting is also associated with negative affect (Ackard et al., 2002; Duemm et al., 2003) which is thought to contribute to the development of bulimia. Moreover, feeling fat (which is a key factor in the development of anorexia; Cooper, Deepak, Grocutt, & Bailey, 2007) was also felt more frequently and caused more distress in dieters than non-dieters.

Effects of dieting on cognition. Restricting food intake can also lead to preoccupation with food, a desire to change profession to food-oriented careers, and increased irritability and anger (Polivy, 1996). Moreover, food intake restriction may actually lead to weight gain (Herman & Polivy, 2004; Liechty, 2010; Polivy, 1996; van Strien, Herman, Engels, Larsen, & van Leeuwe, 2007). Chronic dieters may experience psychological effects of deprivation similar to those who are actually being deprived even when they are not actually restricting food intake—just the thought of being “on a diet”, independent of food consumption, can instigate feelings of deprivation. Such thoughts and reactions can lead to over-indulging as a form of compensation (Polivy, 1996), leading to a cycle of bingeing and dieting.

In an often cited study by Herman and Mack (1975), dieters and non-dieters were compared to explore how much ice cream would be consumed. Participants were randomly

assigned to one of two conditions in which they would either consume a milkshake preload or not. All participants were then presented with containers of ice cream (chocolate, vanilla, and strawberry), and were asked to rate each one based on a variety of dimensions. After a 10-minute tasting period, participants were given an eating habits questionnaire that asked about dieting habits, eating and weight history. The results of this study indicated that those who were dieting were likely to consume more ice cream after the milkshake preload than after no preload at all. On the other hand, non-dieters consumed decreasing amounts of ice cream as a function of the size of the preload. It is important to understand that the participants' actual eating habits and weight loss did not play a significant role in this study, demonstrating that the actual amount of restraint was not of importance—it was the perceived level of restraint that was associated with amount of ice cream consumption. This phenomenon has been labelled the “what the heck” effect, suggesting that dieters may be thinking “My diet is already blown for the day by drinking milkshakes, so what the heck, I might as well enjoy some ice cream too!” (Baumeister & Bushman, 2007, p. 155). However, studies have demonstrated that even without a preload, dieters are more likely to consume more calories over time due to perceived deprivation (Markowitz, Butryn, & Lowe, 2008; Polivy, 1996).

Dieting and peers. While there has been a significant amount of research looking at the effects of media and family on dieting, research on the influence of peer groups on dieting is rather limited (Woelders et al., 2010) and conflicting. Some studies on dieting behaviour within peer groups have demonstrated that one is more likely to diet when one's peers are dieting. For example, Hutchinson and Rapee (2007) found that friendship cliques shared similarities in dietary restraint, extreme weight loss behaviours and binge eating. Woelders and colleagues (2010) prospectively examined the role of friendship groups on body dissatisfaction and dieting

among adolescents over a one-year span. They found that friendship groups were characterized by their level of dietary restraint, body dissatisfaction and weight concerns, and that adolescents' own report of lifetime dieting was related to group level of lifetime dieting (i.e., participants who had dieted at least once in their lives were likely to be in friendship groups where one other person had reported having dieted at least once in their lives). However, presence of group lifetime dieting did not predict current restrained eating. Therefore, while groups shared similarities in dieting behaviour and body dissatisfaction, group dieting behaviour did not influence individual behaviour (Woelders et al., 2010). This seems to suggest, again, that individuals have friends with similar beliefs and attitudes, which would support the literature on need to belong (Baumeister & Leary, 1995) and the effect of similarity in peer selection.

Opposing these findings, Eisenberg and Neumark-Sztainer (2010) completed a five-year longitudinal study in order to understand the role that peers play in the development of dieting behaviour and body dissatisfaction. They found that among female adolescents, chronic dieting, extreme weight control behaviours, and binge eating five years later were positively related to the adolescents' perception that their friends were dieting. This study demonstrates that adolescents are likely to adopt behaviours similar to their peers' behaviours, contrary to Woelders and colleagues' findings (2010). This would be an example of negative self-synchronization in that individuals changed their behaviours in a negative manner, likely to conform to peer expectations and ideals. It is important to note that Eisenberg and Neumark-Sztainer did not use the same method for determining friendship group as Woelders and colleagues—the Eisenberg and Neumark-Sztainer study did not ask participants to identify specific friends but simply asked “whether many of their friends diet to lose weight or keep from gaining weight” (p. 68), thus over the five year period, the friends to whom they were referring

may have changed. Similarly, the Woelders and colleagues study identified specific friendship groups and followed-up with these groups after a one year period; however, there was no information on whether individual members of the group still maintained group membership. Information collected after the one year period could have been about groups of individuals who were no longer friends. Thus the analyses at the second time period for both of these studies may reflect inaccurate conclusions due to change in friendship composition.

While one's group of friends may play a role in how one chooses to behave, one's closest friend has a unique and more significant influence on her than other peers, especially in terms of risk-taking behaviour (Bearman & Bruckner, 1999; Jaccard, Blanton, & Dodge, 2005; Morgan & Grube, 1991). This is likely because intimate disclosures and mutual reciprocity exist within best friend relationships, facilitating the communication of expected norms and behaviours (Overbeek et al., 2011). Overbeek and colleagues (2011) also assert that the importance one places on a relationship would uniquely affect the extent to which an individual is willing to go to seek approval. Thus, if the individual greatly values the approval and acceptance of her closest friend, she may engage in behaviours that are similar to those exhibited by her friend to obtain approval. This would be an example of how negative self-synchronization would occur. There is a large gap in the literature exploring the role of one's closest friend and dieting behaviour.

Moreover, while the transition from childhood to adolescence likely implies changes in peer relationships, the transition from adolescence to adulthood often implies more autonomy from the family, and is therefore also an important time in an individual's life (Arnett, 2000). Individuals are more likely to be living away from home at this point, and therefore have both emotional and geographic distance from their parents (Arnett, 2000), allowing choices to be largely independent (Arnett, 2000), and making peers more likely to be one's main social

network. Information regarding peer influences on emerging adults' dieting behaviour is also lacking, as most peer-focused research is based on children and adolescents. Moreover, the development of close interpersonal relationships has been described as one of the major life tasks facing young adults (Arnstein, Offer, & Sabshin, 1984). Arnstein and colleagues (1984) further assert that individuals between the ages of 18 to 30 are preoccupied with finding, establishing, and stabilizing adult patterns of social interaction, which include placing more importance upon close friendships rather than on large social circles (Reis, Lin, Bennett, & Nezlek, 1993). Considering the negative impact of dieting on one's health, and the importance young adults place on close friendships, exploring the role of one's closest friend in adulthood is important.

Sociotropy

It is not known what motivates certain individuals to choose friends who are similar to themselves and why they are susceptible to changing their own behaviour to be more similar to that of their peers. One possible factor is sociotropy, which is conceptualized as a cognitive personality trait.

The concept of sociotropy has been largely and almost exclusively discussed within the realm of depression. The sociotropic personality is oriented toward interpersonal relationships, and the self-worth is based on receiving love and acceptance from others and maintaining close social relationships (Beck, Taylor, & Robbins, 2003; Clark, Beck, & Alford, 1999; Clark, Steer, Beck, & Ross, 1995; Oates-Johnson & Clark, 2004). Highly sociotropic individuals have a strong desire for approval, acceptance, as well as nurturance from others. They also exhibit greater sensitivity to interpersonal criticism or rejection and exert greater effort to please others in order to maintain interpersonal relatedness (Beck, 1987; Clark et al., 1995; Oates-Johnson & Clark, 2004). Sato and McCann (1998) described these individuals as "dependent on others,

concerned about disapproval from others, and are motivated to please others” (p. 847). Moreover, highly sociotropic individuals more often evaluate themselves in relation to others (Clark et al., 1999), and are perceived as being overly warm, nurturing, unassuming, exploitable, and submissive (Sato & McCann, 2007). However, as Clark and colleagues (1999) explained, a distinction must be made between adaptive and maladaptive sociotropy in that a certain level of importance on social relationships is helpful to one’s survival and one’s life satisfaction (Baumeister & Leary, 1995). However, excessive sociotropy in the presence of a depressogenic cognitive style (characterized by an internal, stable and global attributional style in the face of negative outcomes) renders one more susceptible to the development of depression (Clark et al., 1999). It has been demonstrated that sociotropy and social support are not correlated; meaning that one’s desire to belong does not automatically mean that they have a good social support system in place. The converse is true as well because having a strong social support network does not automatically mean that the individual has a strong need to be accepted by that group (Jackson, Weiss, Lunquist, & Soderlind, 2005).

Highly sociotropic individuals tend to be sensitive to interpersonal situations and as such, tend to perceive stressors impacting on their social well-being as extremely distressing (Clark et al., 1995; Clark et al., 1999; Sato & McCann, 1998). Such stressors for these individuals can increase their susceptibility to depression (Clark et al., 1995; Clark et al., 1999; Sato & McCann, 1998). Moreover, highly sociotropic individuals feel anxious about whether people will like them when they are around people and will also feel anxious about being alone in the absence of others (Sato, 2003). Thus, many social situations can be stressful for highly sociotropic individuals. Considering how women have been socialized to be obedient and serving to maintain relationships (Hesse-Biber, 1996), it may come as no surprise that women have been

found to be more sociotropic than men (Clark et al., 1995; Oates-Johnson & Clark, 2004; Oates-Johnson & DeCourville, 1999; Robins et al., 1994; Sato, 2003).

In summary, being high in sociotropy not only means that one is more sensitive and attuned to the needs of others, but that one seeks acceptance by peers in order to increase or maintain one's self-worth. Moreover, women are more vulnerable to being highly sociotropic because of the socialization to conform to please others, which in turn increases their vulnerability to depression.

Dieting and/or eating disorders and sociotropy. The studies cited above show the relationship between an individual's dieting behaviour and that of her peers. However, the factors that can explain this relationship were not investigated. One such factor is the level of sociotropy of the individual, which may help explain the link between the self-peer dieting behaviours.

Only a handful of studies discuss the role of sociotropy in eating disorders or weight preoccupation. Several studies have noted the theoretical overlap that exists between the concepts of sociotropy and body dissatisfaction (Friedman & Whisman, 1998; Hayaki, Friedman, Whisman, Delinsky, & Brownell, 2003; Oates-Johnson & Clark, 2004) —namely issues of dependency, need for approval, and heightened awareness of how one is perceived by others, and avoidance of criticism and rejection. Oates-Johnson and DeCourville (1999) found that a high drive for thinness and body dissatisfaction were significantly and positively correlated with need for acceptance and approval (i.e., sociotropy). Moreover, those who were highly weight preoccupied (i.e., high in body dissatisfaction and drive for thinness) and who were highly sociotropic experienced the highest levels of depression (Oates-Johnson & DeCourville, 1999). Oates-Johnson and Clark (2004) further contributed to this information by suggesting that highly

sociotropic women who perceived more social disapproval from significant others due to weight and physical appearance experienced a significant increase in depression scores, while those who perceived minimal social disapproval experienced a decline in their dysphoria. This suggests that perceived social approval or disapproval has a significant effect on affect.

Lastly, Duemm and colleagues (2003) elaborated upon a dual pathway model for predicting risk of developing bulimia, in which negative affect and restrained eating are both significant predictors. They illustrated that sociotropy was significantly correlated to ideal-body internalization, negative affect, and bulimic behaviour. They also demonstrated that ideal-body internalization, body dissatisfaction, negative affect and bulimic behaviour were all significantly correlated to restrained eating. Clearly this is an interconnected model, and no psychological construct functions independently of the others (Duemm et al., 2003). As Hayaki and colleagues (2003) suggest, it may be possible that highly sociotropic individuals may be more vulnerable to pleasing others and may therefore engage in unhealthy dieting behaviours that can trigger bulimic episodes. Moreover, Duemm and colleagues' study demonstrates that both sociotropy and dietary restraint are positively correlated and both in turn are correlated with many constructs such as depression and anxiety, body dissatisfaction, and awareness of sociocultural attitudes towards appearance (Duemm et al., 2003). However, the mechanism behind this and how they both relate to one's closest friend's behaviour and cognitions remains unclear.

General Summary

Women's concerns with their bodies have existed for centuries. Institutions such as media, peers and family reinforce the importance of a woman's body on her self-worth. Moreover, unrealistic expectations of women's body appearance have become the socially accepted norm, creating body dissatisfaction within most women. Throughout adolescence and

into emergent adulthood, women (and individuals in general) increasingly rely on peers for social acceptance and adopt views and beliefs similar to those of their peers, making peers one of the largest means of influencing individuals. To conform to societal expectations about one's body shape and size, a woman most often turns to dieting. However, it is not only through one's own independent decision-making process that one chooses to diet. Rather limited and inconsistent literature has demonstrated that one's dieting behaviour may be predicted by one's peer choice. A reason for this inconsistency is motive for peer choice, and whether individuals choose peers similar to them, or if they change in order to satisfy group ideals. Sociotropy, which relates to the importance placed on social acceptance, may be a factor in determining to what extent individuals are willing to go to create and maintain important relationships. Understanding motivations for dieting, and how such motivations relate to one's closest friend's behaviour, will allow for better dieting and eating disorder prevention programming. Moreover, considering the role of social disapproval in the development of negative affect and depression, and identifying the kinds of messages individuals perceive are being communicated by their closest friend may allow for a better understanding of how to assist individuals to cognitively restructure such messages or reject negative feedback.

The Present Study

The present study investigated the role of sociotropy in the relationship between one's own dieting behaviour and body satisfaction with one's perception of the same in one's closest friend. The study adopted a mixed quantitative and qualitative research paradigm to investigate these associations in young women (ages 18 – 25). Sociotropy was analyzed for its role as a moderator between self and closest friend's perceived eating behaviour and body satisfaction. Narrative responses were obtained in response to open-ended questions to better understand

motivations for dieting, relationship characteristics between the participant and her closest friend, and the mechanism by which behaviours between the two individuals are related.

A mixed-methods approach was chosen for this study to allow for women to elaborate upon their choices to diet (or not to diet) and the relationship they have with their closest friend. While quantitative empirical approaches offer a wealth of information, and are the method of preference by most psychologists, such an approach “does not seem to capture subtleties that [I] suspect are at play within the lives of those [I] want to study” (Leckenby & Hesse-Biber, 2007, p. 250). While many psychological measures have demonstrated content and face validity, most were not developed using qualitative methods (Avalos, Tylka, & Wood-Barcalow, 2005; van Strien, Frijters, Bergers, & Defares, 1986), nor were participants interviewed or given the opportunity to provide feedback for the development of the measures. Without taking such accounts into consideration, most testing measures seem to evaluate others’ impressions of an individual, rather than the individual’s experience, as most claim. Moreover, these measures are used to provide evidence, from which facts are inferred. For example, within the literature, it is well established that women tend to have higher levels of sociotropy than men (Clark & Beck, 1991; Robins et al., 1994), and that women are often more frequently diagnosed with depression than men as well (Stewart & Grace, 2003). Rarely are the social dynamics that involve sociotropy, women, and depression considered. Instead, a set of criteria that define depression have been established, outlining abnormal and pathological behaviour, and this same framework of normality is applied to everyone, regardless of sex or contextual considerations. For example, women who experience depression have been found to feel out of control or overwhelmed, to lack emotional support, and to have a low sense of mastery (Stewart & Grace, 2003). This draws a picture of women who are weak and cannot support themselves in any aspect of their lives and

in effect, suggests an internal defect in the women. However, such a position ignores external reasons which might be situational and help to contextualize our understanding of depression in women. Because the research methodology most often adopted in the sciences makes many assumptions without considering the experiences of individuals (Longino & Doell, 1983), the effect of oppression and marginalization are left out of the equation. Such thoughts have been shared by others, who describe mainstream approaches as disempowering because they “promote androcentric, homogenized, decontextualized, reductionistic, and dualistic ways of understanding women’s lived experienced and embodied lives” (Stoppard, 1999, p. 79) Thus, by inviting women to elaborate upon their experiences, a better understanding of feelings and behaviour would be obtained.

The mixed method utilized in this study is what Leckenby and Hesse-Biber (2007) call “QUANT followed by qual” (p. 257). This method uses a quantitative study as the primary means of inquiry, followed by qualitative information to assist in understanding the results. This method can be used to obtain a wealth of information about reasoning for behaviour and thought processes involved. More specifically, this method of research was predicted to offer more insight about the role one’s closest friend plays on one’s dieting behaviour and body satisfaction, and to provide an opportunity for the individual to elaborate upon her experience with her closest friend, if she feels she is influenced by her, why she chooses to diet, etc. Without such information, assumptions would be made without ever listening to what participants had to say.

Hypotheses

It was hypothesized that sociotropy would moderate the relationship between an individual’s dieting behaviour and perceived closest friend’s dieting behaviour such that the relationship would be greater among high sociotropic individuals than low sociotropic

individuals. The same prediction was made with respect to body image satisfaction. Additional supplemental analyses to investigate sociotropy as a possible mediator were also carried out.

Method

Participants

A total of 156 women participated in this study. All of the women were between the ages of 18 and 25 years old ($M = 21.96$, $SD = 2.10$). Information regarding BMI, ethnicity, employment and student status, and eating disorder history were collected. The sample used in this study depicted that most participants had a healthy BMI rating ($M = 22.43$, $SD = 5.69$). Body Mass Index levels ranged from 13.8 to 42, with five percent of the sample falling below the healthy cut-off of 18.5 (indicating being underweight), and 20.5% of the sample being overweight or obese (indicated by a BMI above 25).

Participants were asked to self-define their ethnicity, these responses were aggregated to fit into larger categories. The majority of the sample was Caucasian (66.03%, with people in this category self-identifying as “Caucasian”, “White”, “Italian”, “European Canadian”, “Spanish”, “English” and “European”), 13.46% of the sample was South Asian (with people in this category self-identifying as “South Asian”, “Indian”, “Pakistani”, and “Bangladeshi”), 3.85% described themselves as “Canadian” or “North American”, 3.85% self-identified as “Chinese” or “Asian”, 3.21% fell into the category of Middle Eastern (with individuals self-identifying as “Middle Eastern”, “Iranian”, and “Arabic”), 2.56% considered themselves “Aboriginal” or “North American Indian”, 1.92% fell into the category of African Canadian (with people self-identifying as “East African” and “Black”), 4.49% described themselves as having a mixed ethnicity, and .64% with an “other” ethnicity (described their ethnicity as being “Muslim”).

Most of the sample self-identified as being students (75%), and as being employed (66%). In terms of marital status, 80.8% of the sample was single, 12.8% was married, .6% was divorced, and 5.8% chose the category “other”. Approximately 10.3% of the sample self-identified as having or having had an eating disorder, however 3.2% of individuals were receiving or had received treatment for an eating disorder.

Measures

Several measures and questions, both quantitative and qualitative, were used to obtain information about demographics, eating behaviour, body satisfaction, sociotropy, reason for dieting, and about the participant’s closest friend.

Demographics (see Appendix A: Section A). Participants were asked several questions about themselves, including their age, ethnicity, and body mass index (BMI). This information was gathered for the purpose of identifying patterns and assessing diversity within the sample.

Restraint Scale of the Dutch Eating Behaviour Questionnaire (DEBQ; van Strien, Frijters, Bergers, & Defares, 1986; see Appendix A: Section B). The DEBQ is the scale that was used to assess dieting behaviour. It is designed to measure external, emotional and restrained eating (van Strien et al., 1986) all of which are believed to contribute to overeating. Thus, it is comprised of three separate scales: emotional eating, external eating, and restrained eating. Emotional eating is a coping mechanism used to deal with emotional arousal, while external eating occurs when individuals eat in response to food-related stimuli (such as the sight, smell or thought of food), regardless of one’s internal state of satiety or hunger. Restrained eating is a method of controlling food intake, and is a reaction to thoughts of being over-weight. The Restraint Scale of the DEBQ was used in the present study to assess dieting behaviours of the participants of the participants.

The Restraint Scale was developed based on Herman and Mack's (1975) study which found that individuals who were consciously restraining their eating were likely to consume more after consuming a high caloric preload (van Strien et al., 1986). The Restraint Scale includes 10 items that are answered on a 5-point Likert scale (i.e., 1 = never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = very often). Higher scores reflect a greater degree of restrained eating. The Restraint Scale of the DEBQ has high internal consistency, with Cronbach's alpha at .95, and high factorial validity with items' Eigenvalues ranging from .71 to .895 within its factor (van Strien et al., 1986). The DEBQ Restraint Scale bore a significant positive correlation with the Current Dieting Questionnaire ($r = .46$), the Restraint Scale of the Eating Inventory ($r = .69$), the Restraint Scale Total Score ($r = .55$), and the Restraint Scale's Concern for Dieting subscale ($r = .63$; Williamson et al., 2007), demonstrating its convergent validity.

Body Appreciation Scale (BAS; Avalos, Tylka, & Wood-Barcalow, 2005; see Appendix A: Section C). Body image satisfaction of the participant was assessed using the BAS which assesses the extent to which one is satisfied with and respects one's body (as opposed to a pathological dissatisfied scale). This scale offers a holistic assessment of body image appreciation, including favourable opinions of the body (regardless of actual physical appearance), acceptance of the body, respect for the body by attending to its needs, and protection of the body by rejecting unrealistic body images portrayed in the media. Items are scored on a 5-point scale (i.e., 1 = never, 2 = seldom, 3 = sometimes, 4 = often, 5 = always), and a scale score is indicated by the averaged response across the 13 items. Higher scores reflect greater body appreciation. The BAS offers temporal stability over a three week period ($r = .90$), and internal consistency (Cronbach's alpha = .94). The BAS correlates significantly positively with the Body Esteem Scale's sexual attractiveness ($r = .50$), weight concern ($r = .72$), and

physical condition ($r = .69$) subscales demonstrating convergent validity. Moreover, the BAS significantly negatively correlates with scores on the body dissatisfaction subscale of the Eating Disorders Inventory ($r = -.73$), the body surveillance and body shame subscales of the Objectified Body Consciousness Scale ($r = -.55$ and $-.73$, respectively) and the disordered eating subscale of the Eating Attitudes Test -26 ($r = -.60$), demonstrating discriminant validity.

Sociotropy Scale of the Revised Personal Style Inventory (PSI; Robins et al., 1994; see Appendix A: Section D). The PSI was used to measure participants' levels of sociotropy. The PSI measures levels of autonomy and sociotropy, both found to increase susceptibility to depression at high levels. Autonomy focuses on goal achievement and individual autonomy, while sociotropy focuses on needs for intimacy, affiliation and dependency (Beck, Taylor & Robbins, 2003). For the study, only sociotropy items of this scale were used. The Sociotropy scale of the PSI is made of three separate subscales: concern what others think (items 7, 13, 23, 31, 33, 39, and 45), dependency (items 3, 11, 17, 21, 27, 37, and 43), and pleasing others (items 1, 5, 9, 15, 19, 25, 29, 35, 41, and 47). There are 24 items on the scale, and each item is scored on a scale from 1 to 6 (where 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, and 6 = strongly agree). Questions on this scale include "I am very sensitive to criticism by others" (an example of concern what others think), "I find it difficult to be separated from people I love" (an example of dependency), and "I often put other people's needs before my own" (an example of pleasing others). To score these items, the total is taken from each measure and the sum of all three provides a final sociotropy score. All items on the Sociotropy scale have an Eigenvalue greater than .30 on its factor (Robins et al., 1994). The PSI has adequate internal consistency (Cronbach's alpha = .88) and retest reliability over a 5 to 13 week period ($r = .80$). Moreover, the sociotropy scale of the PSI has been found to correlate

significantly with scores on the Beck Depression Inventory ($r = .27, p < .01$) and means for depressed ($M = 127.7, SD = 18.4$) and non-depressed ($M = 104.2, SD = 17.6$) individuals also differed significantly, demonstrating construct validity (Robins et al., 1994).

Qualitative Questions (see Appendix B). Participants were asked a number of questions in order to gain a better understanding between their thoughts and their actions. Generally, the questions assessed the issues of dieting, eating behaviours, and body image in relation to the self and to a closest female friend to allow for comparisons to be made between responses in relation to the self and responses in relation to the friend. Questions were also asked about the participant's relationship with her closest friend to better understand friendship dynamics, and provide additional information on friendship choice.

There were four questions that were relevant to quantitative statistical analysis. Questions 1 and 4 asked respectively, whether the participant was currently dieting and whether she was satisfied with her body image. As can be seen later, the categorical yes/no responses to both questions were used to address the validity of the DEBQ Restraint scale score and the BAS score. Questions 3 (ii) and 5 (ii) ask for the respondent's assessment of the severity of the closest friend's dieting behaviour (Friend Dieting) and degree of the closest friend's body image satisfaction (Friend Body Image). Both were used in subsequent regression analyses to address the hypotheses in the study.

The remaining questions were to offer narrative information to provide insight into the participants' reflection of their friendship with their closest friend and its impact on themselves, and potentially offer some information about causality and directionality, which could not be obtained through the quantitative analyses of this project. This information also provided

information on social approval and the importance participants place on their friendship, helping the researchers better understand the quantitative results.

Procedure

Participants were women aged 18-25 (emerging adults, Arnett, 2000) recruited from the general community. Recruitment procedures included posters at different institutions (universities and colleges, community centres, eating disorder clinics, hospitals, counselling centres, etc; see Appendix C). Moreover, electronic recruitment included posting information about the study on online newsletters and websites (such as Lakehead University's Communications emails, the Canadian Psychological Association and Kijiji; see Appendix D). Participants had the opportunity to win one of four \$25 gift certificates to Tim Horton's. Moreover, students who were enrolled in Introduction to Psychology (Psychology 1100) at Lakehead University Thunder Bay campus had the opportunity to gain a point towards their course marks for their participation.

Through recruitment, potential participants were invited to visit the survey website that was hosted through surveymonkey.com. There, the individuals were asked to read a letter of information about the study (see Appendix E) and consent form (see Appendix F). Those who chose to participate filled out the sections on the consent form relating to their participation, included contact information for the random prize draws for participants and for bonus marks for Introductory Psychology participants, and then clicked on a "PROCEED" button which led to a separate webpage and the research questionnaire. By hosting the consent form and research questionnaire on separate weblinks, the anonymity of the participants was kept. Participants went on to complete the online questionnaire that included the demographic sheet, the Restraint Scale of the DEBQ, the BAS, the Sociotropy subscale of the PSI, and qualitative questions.

At any time during the study, from recruitment through to completion of the research questionnaire, participants had the option to contact the primary investigators if they had any questions or concerns. Upon completion of the research questionnaire, participants were provided with a letter that debriefed and provided them with additional literature to read, and a list of mental health services in Thunder Bay to access if they so desired. Information about eating disorders was also included (see Appendix G). Lastly, participants were given an opportunity to provide feedback regarding the study (see Appendix H).

Results

Overview of the Study

The current study included both a quantitative and qualitative portion to be analyzed. The quantitative analyses were completed to better understand the role of sociotropy (Sociotropy) in the relationship between a woman's dieting behaviour (Self Dieting) and the dieting behaviour of her closest female friend (Friend Dieting), and between a woman's body image satisfaction (Self Body Image) and the body image satisfaction of her closest female friend (Friend Body Image). The qualitative analyses were completed to better understand the mechanisms behind these relationships.

Quantitative Analysis Strategy

The quantitative portion of this study addressed two main hypotheses, the first being that the correspondence between an individual's dieting behaviour (Self Dieting) and perceived closest friend's dieting behaviour (Friend Dieting) will be greater among highly sociotropic individuals (Sociotropy). The same prediction was made with respect to body image satisfaction where the congruency between the individual's body image satisfaction (Self Body Image) and

perceived closest friend's body image satisfaction (Friend Body Image) would be higher among those who are high in Sociotropy compared to those who scored low in Sociotropy.

The primary analyses included two sets of multiple regressions. The first multiple regression, which was a moderated regression, explored the relationship between Self Dieting and Friend Dieting, with Sociotropy as a moderator. As Hoyt and colleagues explain (2006, p. 223), multiple regression “may be used to test hypotheses of linear or curvilinear associations among variables, to examine associations among pairs of variables controlling for potential confounds, and to test complex multiple variables (such as mediator and moderator hypotheses)”. In this case, Friend Dieting was used as the predictor variable, Self Dieting was used as the criterion variable, and Sociotropy served as the moderator variable. A moderator is a third variable that affects the strength or direction of the association between the predictor and criterion variables (Baron & Kenny, 1986; Hoyt, Leierer, & Millington, 2006; Tabachnik & Fidell, 2007).

The second multiple regression, which was also a moderated regression, explored the similarity between Self Body Image which was the criterion variable, and Friend Body Image which was the predictor variable. Sociotropy was used as the moderator variable

Pre-Analysis Issues.

Missing data and number of cases. Prior to analysis, the final data set was screened for accuracy and missing items with the use of the Statistical Package for the Social Sciences, 19th edition (SPSS-19). A benefit of using Survey Monkey to administer the questionnaires and collect responses is the ability to electronically download the data file, eliminating much of the manual data entry, minimizing human error when inputting the data. Nevertheless, the data was

still thoroughly inspected and each variable was examined to ensure that scores for each variable were within range (Tabachnik & Fidell, 2007).

A total of 180 individuals began the questionnaire on Survey Monkey, however of this, 15 individuals did not meet the inclusion criteria of being between the ages of 18 and 25 years old, and being a self-identified woman. An additional nine individuals did not complete one of more of the essential items or scales, and thus their data was excluded from further quantitative analyses. This left a total of 156 participants whose data were included in the statistical analyses.

For participants who were missing a small number of items (<5%) on one or more scales, a mean substitution was used for these missing items. This process includes substituting the missing item with the mean value of the item for the total sample (Tabachnik & Fidell, 2007). No participant was found missing more than 5% of the items on any particular scale and thus the mean substitution method was used to address the missing data.

Univariate and multivariate outliers. The data set was screened for the presence of univariate outliers that can affect the results (Tabachnik & Fidell, 2007). To test for univariate outliers, each of the scale score variables were standardized into z scores using SPSS, whereby any case with a z score of greater than ± 3.29 (i.e., \pm three standard deviations) would be considered an outlier. In the current data set, one outlier was found in the BMI data. However, because information pertaining to BMI does not directly affect the predictor, criterion or moderator variables, it was not excluded or transformed. No other univariate outliers were found.

The data set was once again screened for multivariate outliers, using the Mahalanobis distances. Mahalanobis distances indicate the distance of a particular case from the centroid of remaining cases, where the centroid is the point created at the intersection of the means of all variables (Tabachnik & Fidell, 2007, p. 74). In this case, a Mahalanobis distance of greater than

$\chi^2(4, n = 156) = 20.52$ would indicate a multivariate outlier (Tabachnik & Fidell, 2007). No multivariate outliers were found.

Normality, linearity and homoscedasticity. Assumptions of normality, linearity and homoscedasticity were assessed by exploring residual scatterplots, which were created through the regression analysis, examining the distribution of residuals in relation to the predicted dependent variable scores (Tabachnik & Fidell, 2007, p. 125). Examination of these scatterplots demonstrated some deviation from normality on all scales. With further exploration of values of skewness and kurtosis, only BMI was found to have a significant kurtosis value; however, it was decided not to transform this data because they were not critical to the analyses of the study. The regression scatterplots can be viewed in Figure 1.

Multicollinearity. Multicollinearity analyses are done to ensure that variables are independent of one another, and are not essentially providing the same or similar information (Tabachnik & Fidell, 2007). Such information is obtained by looking at the correlations between variables, where highly correlated variables can lead to unreliable estimations of the regression coefficient (Tabachnik & Fidell, 2007). Bi-variate Pearson correlations were done using many of the variables (see Table 1). None of the correlations reached the r value of .90 or greater cut-off, suggesting that multicollinearity was not an issue with this data set (Tabachnik & Fidell, 2007). Further exploration of multicollinearity, using variance of inflation (VIF) and tolerance values, supports this finding as well. It is generally accepted that a VIF value of 10 or greater, or a tolerance value of .10 or less indicates serious multicollinearity among the variables (Tabachnik & Fidell, 2007). Thus, there appears to be no problem with multicollinearity in the current data set.

Quantitative Findings

Ensuring validity of measures. To ensure the validity of the Self Dieting scores which were derived from the DEBQ Restraint scale, data were split based on yes or no responses to the question “Are you currently dieting?”. After this split, an independent samples *t*-test was performed. A significant difference was found such that those who indicated that they were currently dieting had a significantly higher score on the Restraint scale than those who indicated that they were not dieting, $t(154) = 5.93$ $p < .001$ (see Table 2 for summary of group means).

To ensure the validity of the Self Body Image scores derived from the Body Appreciation Scale, data were split based on yes or no responses to the question “Are you satisfied with your body appearance?”. After this split, an independent samples *t*-test was performed. Equal variances were not assumed in this test (as indicated by the Levene’s test, $F = 12.74$, $p < .001$). The results demonstrated that there was a significant difference such that those who expressed that they were satisfied with their body image scored higher on the Body Appreciation Scale than those who noted that they were dissatisfied, $t(128.50) = 11.69$, $p < .001$ (see Table 2 for summary of group means).

Correlations among the variables.

Correlations of self and closest friend body image satisfaction. While studies have only focussed on peer or friendship groups in adolescence (e.g., Eisenberg & Neumark-Sztainer, 2010; Paxton et al., 1999; Woelders et al., 2010), as could be predicted from studies’ findings (e.g., Paxton et al., 1999), Self Body Image was significantly and positively correlated with Friend Body Image, ($r = .36$, $p < .001$), indicating that the more satisfied the individual was with her body image, the more likely she was to perceive her closest friend as having body image satisfaction.

Correlations of self and closest friend dieting behaviour. No significant correlations were found between Self Dieting and Friend Dieting, $r = -.10$, *ns*.

Correlations of body image satisfaction, dieting behaviour and sociotropy. The dual pathway model of bulimia (Duemm et al., 2003) suggests that there is a positive and significant relationship between sociotropy and body image dissatisfaction, and sociotropy and dietary restraint. As predicted by this model, Sociotropy and Self Body Image were negatively and significantly correlated, $r = -.49$, $p < .001$. This suggests that the less satisfied an individual is with her body image, the higher her level of sociotropy. Additionally, as predicted by this model, Sociotropy and Self Dieting were positively and significantly correlated, $r = .35$, $p < .001$, suggesting that the more an individual engages in dietary restraint or dieting, the greater her level of sociotropy.

Regression analyses.

Moderated regression with Dieting data. To address the hypothesis that one's closest friend's dieting behaviour (as perceived by the participant) would predict one's self-dieting behaviour, and that this relationship would be moderated by one's level of sociotropy, such that the higher one's level of sociotropy, the higher the correspondence between friend and self dieting behaviour, a moderated multiple regression was conducted. Raw scores for Sociotropy and Friend Dieting were first standardized to reduce problems of multicollinearity and to facilitate ease of plotting significant moderator effects through convenient representative values such as z-scores (Aiken & West, 1991; Frazier, Tix, & Barron, 2004). Next an interaction term was created by multiplying the two standardized variables (Aiken & West, 1991; Baron & Kenny, 1986; Frazier et al., 2004). The standardized Friend Dieting and standardized Sociotropy data were first regressed on Self Dieting in a hierarchical regression, followed by the interaction

term between standardized Friend Dieting and standardized Sociotropy in the second step (Aiken & West, 1991; Baron & Kenny, 1986; Frazier et al, 2004). It was found that the addition of the interaction term into the equation did not significantly contribute to the prediction of Self Dieting, $\Delta r^2 = .003$, $F(1, 152) = .48$, *ns*. This demonstrated that sociotropy does not moderate the relationship between self-dieting and closest friend dieting behaviour.

Moderated regression with body image data. The same analytic strategy with the use of moderated regression was used to address the issue of body image. As before, Friend Body Image and Sociotropy were standardized and their interaction term was created. Standardized Friend Body Image and standardized Sociotropy were regressed on Self Body Image in the first step of a hierarchical regression, followed by the interaction term in the second step. It was found that the interaction term did not significantly contribute to the prediction of Self Body Image, $\Delta r^2 = .001$, $F(1, 152) = .001$, *ns*. This demonstrated that sociotropy does not moderate the relationship between one's own body image satisfaction and one's closest friend's body image satisfaction.

Supplemental analyses. Supplemental mediational analyses to investigate the role of sociotropy as a possible mediator were carried out. A mediational analysis examines whether a variable (mediator) regulates the relationship between two variables. More specifically, the mediator is thought to cause the relationship between two variables, which in this case are between Self Dieting and Friend Dieting, and between Self Body Image and Friend Body Image. The mediational role can be either partial or complete.

Following the Baron and Kenny (1986) method, there are four criteria to satisfy to establish a mediation relationship: First, there is a significant relationship between the predictor and the outcome or the criterion variable. Second, the predictor variable is related to the

mediator. Third, the mediator is related to the criterion variable. Fourth and finally, the strength of the relation between the predictor and the criterion variables is significantly reduced when the mediator is added to the model (Baron & Kenny, 1986; Frazier et al., 2004). If a complete mediation occurs, the relationship between the predictor and the criterion will be zero when the mediator is included in the model; if partial mediation is occurring, the relationship between the predictor and the criterion will be significantly smaller when the mediator is included in the model, but will be greater than zero (Baron & Kenny, 1986; Frazier et al., 2004). Moreover, Kenny and colleagues (1998) explain that not all steps need to be met in order for a mediational effect to be present. The purpose of the first step is solely to demonstrate the potential of a mediating effect, but its satisfaction is not necessary for a mediational analysis (Frazier et al., 2004; Kenny, Kashy, & Bolger, 1998), especially if the predictor variable is distal to the criterion variable or the effects are thought to be small (Kenny et al., 1998; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Shrout & Bolger, 2002). Steps two and three, however, must be satisfied in order for a mediational effect to be present (Baron & Kenny, 1986; Frazier et al., 2004; Kenny et al., 1998).

Using the mediational model set out by Baron and Kenny (1986), the initial model consisted of Friend Dieting as the predictor, Self Dieting as the criterion, and Sociotropy as the mediator. Step one of the model, where the criterion variable (Self Dieting) was regressed on the predictor variable (Friend Dieting), yielded a non-significant value ($\Delta r^2 = .01$, $F(1, 154) = 1.64$, *ns*), meaning that the predictor and the criterion variable were not significantly related (a non-essential step to the mediation). Step two of the model, where there the mediator variable (Sociotropy) was regressed on the predictor variable (Friend Dieting), yielded a significant value ($\Delta r^2 = .062$, $F(1, 154) = 10.26$, $p < .01$), meaning that the predictor is significantly related to the

mediator. Step three of the mediation model, where the criterion variable (Self Dieting) was regressed on both the mediator (Sociotropy) and the predictor (Friend Dieting) variables, was also statistically significant ($\Delta r^2 = .12$, $F(2, 153) = 10.62$, $p < .001$), meaning that the mediator is significantly related to the criterion. Thus, the two essential steps (steps two and three) were satisfied. Step four indicated that a partial mediation was in place. Using the Sobel test (Baron & Kenny, 1986), a significant small to medium mediating effect was obtained $z = 2.59$, $p < .01$, Cohen $f^2 = .07$, (Aiken & West, 1991; Cohen, 1988). This means that Sociotropy accounted for 12.2% of the relationship between Self Dieting and Friend Dieting.

A second mediational analysis was run, using body image data. The same mediation steps were taken as those described above with Friend Body Image as the predictor, Self Body Image as the criterion, and Sociotropy as the mediator. Step one of the analysis, where the criterion variable (Self Body Image) was regressed on the predictor variable (Friend Body Image), yielded significant results ($\Delta r^2 = .13$, $F(1, 154) = 22.71$, $p < .001$), meaning that the predictor and criterion variables were significantly related. Step two of the analysis, where there the mediator variable (Sociotropy) was regressed on the predictor variable (Friend Body Image), indicated that the predictor variable and the mediator were significantly related ($\Delta r^2 = .08$, $F(1, 154) = 13.29$, $p < .001$). Step three, where the criterion variable (Self Body Image) was regressed on both the mediator (Sociotropy) and the predictor (Friend Body Image) variables, indicated that the criterion was significantly related to the mediator as well ($\Delta r^2 = .29$, $F(2, 153) = 31.05$, $p < .001$). In this analysis, steps one to three were satisfied, and step four indicated that a partial mediation was in place. Using the Sobel test (Baron & Kenny, 1986), a significant medium to large mediator effect was found, $z = 3.10$, $p < .01$, Cohen $f^2 = .30$, (Aiken & West, 1991; Cohen, 1988).

This means that Sociotropy accounted for 28.9% of the relationship between Friend Body Image and Self Body Image.

Qualitative Analysis Strategy

Participants were asked a series of qualitative “narrative”-type questions, to which they could answer with as much or as little detail as they wanted. There are many ways in which qualitative analyses can be performed, all stemming from different theoretical and methodological backgrounds (Cresswell, 1998; Schilling, 2006), thus it is essential to use a method that is in line with the research being performed. A content analysis of participants’ responses was performed for this study. A qualitative content analysis can be defined as “an approach of empirical, methodological controlled analysis of texts within their context of communication, following content analytic rules and step by step models, without rash quantification” (Mayring, 2000, p.5). Schilling (2006) offers steps that should be used for a thorough qualitative content analysis. This process describes decisions that need to be made that include exploring all responses from a single participant at once or exploring all responses to one question at a time, paraphrasing to maintain essential information, establishing categories or themes based on participants’ responses, coding responses to better understand information within the categories, followed by an evaluation and discussion of the themes and the information contained within them. Specifically, information about why participants choose to diet, how they feel about their body appearance and how their closest friend makes them feel about their body appearance were the focus of qualitative content analysis.

Pre-analysis issues. Because response to open-ended questions was optional, not all individuals whose data were included in the quantitative portion of the study have qualitative data as well. Hence all qualitative data that was submitted, regardless of whether the individual

responded to all quantitative data, was utilized as long as the participant met the inclusionary criteria in the study (i.e., participant must be a woman between 18-25 years of age).

Qualitative Data Analyses

Describing the friendship. Participants were asked to describe how close they are with their closest friend. This information was obtained to get a better sense of the types of relationships individuals had with their closest friends. Fifty women responded to this question with most women describing having a close relationship with the closest friend. Many women expressed being extremely close with their friend, being able to share anything with them without the fear of being judged. Some women used terms such as “like a sister” and “inseparable” to describe their relationship, some used a time reference to describe closeness (for example, having been friends since Grade 1), and some explained that they had lived or were living with their closest friends. A subgroup of women explained that they have long distance relationships with their closest friend and that they do not communicate as much as they once used to, but that they still have a close relationship with them. Five of the fifty women who responded to this question described their friendship with their closest friend as being less than close, using words such as “edgy”, “pleasant”, “casual”, “moderately close” and “not as close [as they once were]”.

Dieting.

Participants’ dieting. Participants were asked to describe their diet, including their motivations and reasons for being on this diet. Fifty-three individuals responded to this question, with 52 of these individuals referring to controlling their food intake in some way. The most prominent response to describing one’s diet included restraint ($n = 23$). Restraint involved an overall decrease in the consumption of food, or reducing or restricting foods that were

considered bad or unhealthy. In this category, participants described eating fewer “carbs”, less sugar, less fast food and fried food, and drinking *diet* beverages. A secondary theme for describing one’s diet included making healthier choices ($n = 14$) which to those who responded, meant eating fewer refined and processed foods, eating more fresh food, increasing water intake, and trying to get one’s required nutrients. Some individuals ($n = 7$) also mentioned being on more structured and explicit diets, including using dieting pills and only consuming liquids. A few women ($n = 6$) described less adaptive and potentially harmful methods of food regulation, including not eating all day, restricting then bingeing, purging, meal skipping, and “eating only to sustain”. Eight women discussed exercising to lose weight.

In understanding reasons for dieting, the most common explanation was a desire to lose weight ($n = 8$), with some wishing to compensate for more recent weight gain. Others ($n = 4$) discussed their food consumption in relation to how they had been feeling, mentioning wanting to feel more energetic and less lethargic or “gross”, and to manage or prevent illness. One individual described controlling her food consumption to feel more feminine.

Participants’ closest friend’s dieting. Participants were asked what makes them believe their closest friend is currently dieting. Forty-one individuals responded to this question. The main way through which individuals knew whether their closest friend was dieting was by implicit and explicit messages about food consumption ($n = 41$). Many individuals ($n = 20$) explained that they knew their friend was on a diet because they had talked about how they were restricting food. Others ($n = 21$) made assumptions based on how their friend was refusing food offered, how much food they were eating, and by the choices that their friend was making. Within this category, another way by which participants thought their closest friend was dieting was through messages related to body image. Many participants mentioned that their closest

friend made comments about her body, wanting to be “fit” or to lose weight, being concerned or complaining about her physical appearance. A smaller number of women ($n = 2$) based this decision on the extent to which their friend engaged in exercise, making comments about how their friend is always exercising or has a personal trainer.

Changes in eating behaviour based on interactions with closest friend. Participants were asked whether their eating behaviour changed when they were with, or thought about, their closest friend. A total of 99 individuals responded to this question, with 52 suggesting that their eating behaviour does change. The most common response ($n = 34$) was related to an increase in food consumption, especially in foods considered “unhealthy” or “junk” foods. Many women alluded to eating more mindlessly and as a social activity, rather than eating to curb hunger or for nutrients and energy. Very common within this set of response was also the idea that increasing one’s food consumption and choosing less healthy options were more acceptable if one’s closest friend was engaging in similar behaviour. A smaller group of women ($n = 16$) described decreasing their food consumption. Responses that fit into this category were related to feeling self-conscious about food decisions and feeling judged about such decisions. One woman suggested that she feels bad about eating more than her closest friend when her closest friend is dieting, and therefore generally consumes less than she normally would when she is with her. Lastly, a few women ($n = 2$) suggested that they eat more healthily when with their closest friends, and that they encourage each other to make “better” decisions about food.

Body image.

Participants’ body image. Participants were asked whether they were satisfied with their body appearance, and to describe their thoughts and feelings regarding their appearance, and 50 individuals responded to this question. Many women expressed being dissatisfied with their

appearance. Most women ($n = 27$) expressed being dissatisfied due to having a larger than ideal body, or body parts. For example, some women expressed that they felt overweight or fat, with one even expressing disgust with her weight. Other women ($n = 9$) commented on being unhappy about their large thighs, stomach, not being as “toned” or being “saggy”. Other women ($n = 11$) expressed dissatisfaction unrelated to weight or body size, expressing concerns over an awkward smile, a crooked nose, and more. Within this subset of women was a smaller group ($n = 3$) who wanted larger body parts, specifically larger hips, breasts and buttocks. The third main group of women ($n = 5$) expressed global unhappiness, not specifying particular body parts, but comments about not feeling “okay” with one’s appearance, always feeling the need to improve, and believing that complete happiness with one’s physical appearance is unattainable.

A smaller group of women were satisfied with their bodies. Within this group, some women ($n = 15$) expressed satisfaction with their physical appearance, with a small subset ($n = 8$) specifying that as long as they are thin and “fit” they are content. Another group of women ($n = 3$) described how they took pride in their bodies, exercising and/or eating healthy to feel good, and feeling better when taking care of themselves. A final group of women ($n = 4$) accepted their physical bodies, including shape and size, as is, making statements about how their bodies were built in that manner for a specific purposes, emphasizing the importance of self-acceptance.

Participants’ closest friend’s body image. Forty-eight participants described why they think their closest friend is, or is not, satisfied with her body image. In terms of recognizing satisfaction, the most prominent theme within participants’ responses ($n = 9$) was the idea that their closest friend was confident and comfortable with her physical appearance. More specifically, some of the participants described how their closest friends compliment themselves, that they are not trying to change themselves (through dieting or other means), and generally had

favourable and positive attitudes towards their bodies. A second theme that appeared ($n = 2$) was the assumption of satisfaction based on body size. For example, some women expressed that their closest friend is “skinny” or attractive, thus necessarily linking such attributes with satisfaction.

More women discussed reasons for believing their closest friend was not satisfied with her body image. A prominent theme within these responses is of a self-conscious nature, comparing one’s self to societal expectations and feeling less attractive than others. Within this area, some participants ($n = 20$) explained how their closest friends are self-conscious, put themselves down and/or compare themselves to others. One participant expressed how her closest friend feels as though she cannot wear clothing that will display the skin as others would judge her (and likely deem such displays of body parts unacceptable and unattractive). Other women suggested that their closest friends felt as though individuals who were thinner or who they deemed more attractive than themselves had no right to be dissatisfied. A second theme that emerged was knowledge of dissatisfaction through verbal and non-verbal communication ($n = 16$). For example, some closest friends described desires to lose weight or feeling as though they are “fat”, others expressed not feeling “good” or “fit”, and/or being dissatisfied with particular body parts (such as one’s stomach, buttocks or breasts). A third, less prominent, theme ($n = 7$) was the decision that one’s closest friend was dissatisfied with the body image based on their friends’ behaviour. More specifically, some women determined that because of their closest friend’s choice to diet or exercise, that she is likely not satisfied with her physical appearance.

There was a third set of responses, containing information that did not provide a clear answer and carried a sense of neutrality or indecision about the closest friend’s body image. For example, one participant stated that her closest friend places too much emphasis on what others

think, while some others indicated that their closest friend wavers between moments of satisfaction and dissatisfaction, regardless of her physical appearance. Lastly, some participants discussed how their closest friends enjoy eating generally unhealthy foods, without commenting on body image satisfaction.

Changes in body image satisfaction based on interactions with closest friend.

Participants were first asked how their closest friend makes them feel about their physical appearance, and then what she says or does to make them feel this way. Responses on both of these questions were fairly similar. Of the 133 individuals who responded to this question, 125 individuals suggested that their closest friend does influence their body image satisfaction. Of these 125 individuals, 100 individuals explained that their closest friend generally makes them feel better (with responses ranging from “fine” to “awesome”), another 25 said that their closest friend generally makes them feel worse, and eight individuals’ body appreciation was not affected by their closest friend. For those who responded that their closest friend makes them feel better about their physical appearance, the most prominent theme was that their closest friend provides much positive support, many compliments and makes the participants feel comfortable ($n = 56$). This seemed to be common for most of the women who responded. Another theme that arose was that by comparing their physical appearance, including body shape and size, to that of their closest friend, their negative feelings towards their own bodies ameliorated ($n = 13$).

For those whose body image satisfaction was negatively affected by their closest friend, the most common responses ($n = 29$) were related to feelings of insecurity, jealousy and self-consciousness. More specifically, participants felt as though their closest friend was prettier or more attractive, creating feelings of unhappiness towards one’s own appearance. Within this category, a small subset of women felt worse about their own appearance when their closest

friend made comments about her own body that were negative, making the participants feel as though their closest friend was indirectly referring to them as well. For example, a friend making comments about her being overweight may make the participant feel worse about her own body if she is heavier than her closest friend. One participant also felt she became more judgmental of herself trying to meet her closest friend's expectations. Another theme that arose from responses was feelings of guilt ($n = 8$). More specifically, women felt guilty for feeling satisfied with their appearance when their closest friend was clearly not. A few of the women ($n = 3$) also explained how their closest friend gave them critical feedback about their appearance, causing the participants to feel as though their closest friend was pointing out flaws within the participant.

Some individuals expressed that body image and weight were not topics of conversation amongst them and their closest friends, while some expressed that they were not affected by feedback about their appearance from their closest friend.

Discussion

Review of Study Objectives

Body image and dieting are known to be related (Gingras et al., 2004), and much research has demonstrated that media, family and peers have the ability to affect one's body image and dieting behaviour (Field et al., 2001; Hausenblas et al., 2004; Hutchinson et al., 2010; Shroff & Thompson, 2006). However, very few studies have explored actual friendships to understand the effects of such relationships (i.e., Eisenberg & Neumark-Sztainer, 2010; Paxton et al., 1999; Woelders et al., 2010), and no studies to date have explored closest or best friend relationships. Moreover, none of the studies exploring the role of friendship on body image and eating behaviour have done so using emergent adults, those between the ages of 18 and 25 (Arnett, 2000). Lastly, no studies to date have explored the role of sociotropy within body image and

dieting behaviour within friendship groups. Considering that individuals high in sociotropy would be more concerned about interpersonal relationships and acceptance, the current study's two main objectives were to understand the role of sociotropy in feelings about body image and dieting behaviour between one's self and one's closest friend.

Quantitative Findings

The first hypothesis of the study states that the correspondence between an individual's dieting behaviour and perceived closest friend's dieting behaviour will be greater among high sociotropic individuals than low sociotropic individuals. The results did not support this hypothesis. Instead, they showed that the more sociotropic participants tended to diet to a greater degree than the less sociotropic participants, and they also tended to perceive their friend as engaging in greater dieting behaviours as well. However, the relationship between self-dieting behaviour and friend's dieting behaviour did not vary depending on the level of sociotropy of the participant. It was simply the case that as participants' sociotropy increased, so did their dieting behaviours and their perception of their friend's dieting behaviours.

The second hypothesis is that the correspondence between an individual's body image satisfaction and perceived closest friend's body image satisfaction will be greater among high sociotropic individuals than low sociotropic individuals. This hypothesis was also not supported. Instead more sociotropic participants were less satisfied with their body image and perceived their closest friend to similarly be less satisfied with their body image. However, the relationship in body image satisfaction between themselves and their closest friend did not change as a function of sociotropy.

To further investigate how sociotropy might play a role in the congruency between self and closest friend dieting behaviours and body image satisfaction, supplementary meditational

analyses were carried out. The results showed that sociotropy played a small to medium role in regulating the relationship between one's own dieting behaviours and one's closest friend's dieting behaviours. It also played a medium to large role in regulating the relationship between one's own body image satisfaction and one's closest friend's body image satisfaction. What the mediational analyses show is the relative importance of sociotropy of an individual in understanding the impact of what one thinks about one's closest friend on one's own behaviour in the domain of dieting behaviours and body image satisfaction. Clearly, sociotropy plays a role but given that the mediational relationship is not complete, there are other factors that play a part as well.

Other findings showed that participants who dieted more were less satisfied with their body image. As well, participants who rated their closest friend as engaging in more intense dieting behaviours also rated their closest friend as being more dissatisfied with the way she looked. Lastly, an individual with a higher BMI was less satisfied with her physical appearance. However, there was no relationship between BMI and dieting behaviour. This suggests that although individuals with a higher BMI might be less satisfied with the way they look, they do not necessarily engage in dieting behaviours. Collectively, the findings in the present study are in line with those found in studies with adolescent women wherein body image dissatisfaction predicts dieting behaviour, independent of BMI levels (Neumark-Sztainer et al., 2006).

Qualitative Findings

A second objective of this study was to better understand the impact of the relationship with the closest friend on individuals' cognitions in relation to body image satisfaction and eating behaviour. Open-ended narrative-type questions were asked to the participants in order to allow them to share as much or as little about their relationship with their closest female friend.

This form of information was thought to be important considering the lack of research in this area and with this population.

In terms of understanding how close these friendships were, most women expressed that they were quite close with their closest friends, comparing this relationship to family at times, and for many, feeling as though there was no or little judgment between each other. This information provided a foundation for understanding the rest of the questions, as this was, it seems, one of the people participants were closest to.

Body image satisfaction. A slight majority of the women who participated in the present study expressed that they were not satisfied with their physical appearance. Most of these women expressed that they thought they were overweight or did not fit into societal expectations of beauty, with some wanting larger hips and breasts. This theme was consistent in participants' explanations of why they believed their closest friend was not satisfied with her body. They explained that their closest friends believed that they did not fit societal expectations of beauty, including feeling overweight or simply unattractive. This is a common belief for women, including those who are healthy and much of society would consider attractive (Hesse-Biber, 1996). Moreover, because of the importance placed upon women's bodies and physical appearances, individuals tend to be much harder on themselves, objectifying themselves with the aim of meeting societal standards of beauty (Fredrickson & Roberts, 1997).

Within participants' responses, a common behaviour or thought process that emerged was comparing oneself to their closest friend or others, in order to gauge one's attractiveness. While most women felt as though their closest friend was positive and supportive, this was a common theme that was present in questions related to how one's closest friend made the participant feel about her body image. The idea that feeling more or less attractive based upon the people by

whom one is surrounded amplifies the ideas that beauty is subjective, but also that being beautiful has an element of competition involved, because of the value it carries. Interestingly, this sense of competition was also present within closest friend relationships, with some women suggesting that they felt more or less attractive when with their closest friend because of how attractive they perceived their closest friend to be. For example, one participant stated “...*I feel better about my own body because I know that I am smaller than she is.*”, while another explained “*I don't like my body as much when I'm next to her because she's very fit.*”. There were even some comments that more explicitly alluded to competition and jealousy, including “...*I think she is secretly happy that I have gained weight...*”, while another stated that her closest friend makes her feel “*like I'm in a competition with her*”. Considering these closest friends are the ones participants felt did not judge, it is interesting and quite revealing that participants still carried such feelings. Body comparison, the tendency to compare one's body with others' (Schutz, Paxton, & Wertheim, 2002) has occurred for quite some time, and has its roots in social comparison theory. Several studies have demonstrated that body comparison has been strongly associated with body dissatisfaction, feeling fat, bulimia, and drive for thinness (Schutz et al., 2002). Moreover, Schutz and colleagues (2002) determined that adolescents were more likely to compare themselves to close friends than distal peers, same-gendered family members and women in the media. Thus, it seems as though regardless of how close women are with their friends, social comparison is still at play and affects how women perceive themselves.

Many of those who were satisfied also expressed that because their physical appearance met societal standards of beauty, including being thin and pretty, they felt good about themselves. While this was less clear in statements about closest friends' body image satisfaction, there were some comments that alluded to conditional acceptance. For example, one

participant stated “*She exercises, keeps an eye on the food portions she eats, takes care of her diet, wears flattering clothes—probably is satisfied with body*”. Another common response was related to assumptions of satisfaction because of thinness. For example, one woman stated “*She’s skinny!*”, implying that her closest friend must be satisfied because of this. A small subset of women expressed that engaging in behaviours that made them feel healthy and strong (including eating healthy and engaging in physical activity) made them feel good and able within their bodies. There was a sense of acceptance of physical appearance and the understanding that women have different shapes and sizes to their bodies for specific reasons. Many participants also expressed that their closest friend made them feel better about their physical appearance by providing many compliments and support.

Thus, it seems that while there is a sense of comparison and competition to be thin and attractive, amongst even the closest of friends, this was not the case for all women. Many friends provide support and positive feedback to one another, increasing how participants felt about their body image, and helping increase confidence and comfort with one’s body and physical appearance.

Eating behaviour. Most women who described that they were dieting explained that their diet consisted of a decrease in food consumption, especially in foods deemed unhealthy, such as fast foods, and foods high in carbohydrates and sugar content. Whether participants were on explicit diets or were trying to make *healthier* food choices, these restrictions were generally part of the change in behaviour.

In terms of reasons for dieting, most women described a desire to lose weight because they considered themselves overweight or to compensate for recent weight gains. This theme was consistent for reasons friends were dieting as well. Considering that, according to the

sample's mean BMI, most women (67.3%) were of a healthy BMI (between 18.50 and 24.99 kg/m²; WHO, 2006), it was unlikely that most of these women were actually "overweight", but likely felt as though they did not fit societal standards for healthy (i.e., thin) body shape and size, which is quite common within women (Hesse-Biber, 1996). Some women described changing their diet regimen for health reasons, as well as to gain more energy and simply feel "better".

More than half of women expressed that their eating behaviour changes when they are with their closest friend. The most common response was an increase in food consumption, especially food considered "unhealthy" or "junk food". Many responses alluded to feeling more comfortable indulging in such foods when their closest friend did so. For example, one woman stated "*I tend to eat more, and unhealthier foods when I am with her, just because that is what she eats*", while another stated "*My eating behaviour is less healthy with my friend. I feel it occurs because she eats less healthy and makes me feel less guilty for eating unhealthy food*". Such dynamics occurred in the opposite way as well, such that some participants ate less because their closest friend did so. For example, one participant stated "*I typically eat less because she eats less; she needs less food because she is smaller.*" Thus, there is a strong pattern of mirroring one's closest friend's eating behaviour, even if this causes the participant to still be hungry, or to feel sick. One participant stated "*I'm more prone to eat foods that make me sick (I have a lot of sensitivities and allergies) a.k.a. sugar.*". Some women explained that they can relax around their closest friend and therefore feel more comfortable "indulging", but for others it seemed as though they only "indulged" when their closest friend did so, and sometimes "because" their closest friend did. Some research has demonstrated that individuals will adjust their food intake to match the individual with whom they are eating, akin to impression management (Salvy, Jarrin, Paluch, Irfan, & Pliner, 2007). Moreover, individuals are likely to eat less with strangers

than friends (Salvy et al., 2007), although that is clearly not always the case, as demonstrated by this study. However, even in the present study, decreases in food consumption were often, whether consciously at the time, a mechanism by which the participants were managing the way they were perceived by their friend. Salvy and colleagues' study (2007) demonstrated that women were more likely to consume more in the presence of a friend than a stranger, and that matching of food intake, although correlated for both acquaintances and strangers, was stronger with strangers. In other words, women were more likely to eat similar amounts of food as strangers than as friends. Again, this was hypothesized to be a mechanism of impression management. Considering that the participants in the present study expressed that they did not feel judged by their closest friend, it may be worth studying whether it is impression management that motivates the matching of food intake in these situations. Related to impression management is the behaviour of self-synchronization. As discussed earlier, this is the process by which individuals change their behaviours or attitudes to increase their similarity to individuals with the goal of strengthening bonds or to seem more socially desirable (Gabriel et al., 2010). Self-synchronization may also play a role in why individuals may adjust their food consumption to match others, especially those who they do not know, as social desirability may play a stronger role in such interactions (Schutz et al., 2002). While the extent to which participants were changing their food consumption was less clear, it could be argued that adjustments in food consumption are examples of negative self-synchronization. Moreover, Schutz and colleagues (2002) determined that body comparison amongst friends is more likely to lead to dieting than body comparison amongst distal peers, family members and women within the media. Moreover, the extent to which one engaged in negative self-synchronization has been related to attachment (Gabriel et al., 2010). Thus, exploring how often and to what extent body

comparison is occurring, and one's attachment style, may help better understand motives for dieting.

Clearly many women are dissatisfied with their physical appearance. Even while most women's BMI levels were within *normal* range, many women felt overweight and had a desire to lose weight. This was the main reason for being dissatisfied and the primary motivation for dieting. Even when women recognize that what they are striving to look like (i.e., most often images of women in the media) are unrealistic, they still aspire to look and be like them (Milkie, 1999), and it is evident that such pursuits for thinness and "perfection" are not only endeavours for children and adolescents—these unrealistic desires follow women all the way into adulthood. Moreover, in striving to attain this ideal image, women engage in unhealthy, and sometimes dangerous, behaviours such as dieting and disordered eating. Not only have diets been demonstrated to be ineffective (Herman & Polivy, 2004; Liechty, 2010; Polivy, 1996; van Strien et al., 2007) but may also lead to the development of eating disorders and other problems (Ackard et al., 2002; Duemm et al., 2003; Polivy, 1996). Moreover, even within relationships for which a cornerstone is unconditional acceptance without judgement, body appearance satisfaction and eating behaviours are influenced. The importance society places on these things, and the importance women place on meeting societal standards, permeates through the strongest and closest of relationships.

Strengths and Limitations

This study had numerous strengths and limitations. The use of both quantitative and qualitative data allowed for a better understanding of the results. More specifically, while the quantitative data suggest that there is a role of sociotropy in explaining the relationship between a woman and her closest same-gendered friend's eating behaviour and body image satisfaction,

without the qualitative data there would have been limited information on how thoughts and behaviours are consciously affected by interactions with one's closest friend. For example, the qualitative data demonstrated that women are somewhat aware of how their closest friend affects their feelings of body image and eating behaviour. Moreover, while many friends made participants feel good about their physical appearance, others had somewhat of an adverse effect, instigating feelings of self-consciousness, jealousy, guilt and unattractiveness. While the motives of closest friends were unknown, this is secondary to the idea that women interpret interactions with friends as sometimes competitive and negative. While such feelings were not the most prevalent, they were still present often enough to warrant attention. Similarly, many women described engaging in similar eating habits as their closest friends. For some, this was due to feeling more comfortable with their friend and therefore not worrying about being judged due to their food choices, while for others it was feeling as though it was acceptable to consume what they perceived to be less acceptable "unhealthy" foods because their closest friend was doing the same. While causal statements cannot be made due to the non-experimental design of this study, the qualitative data allows for a better explanation of the mechanism by which some things are occurring, thus providing a better foundation for future research.

This study was also one of the first to investigate the role of sociotropy in dieting and eating behaviour. While a few studies have studied sociotropy and eating disorders (e.g., Duemm et al., 2003; Oates-Johnson & Clark, 2004; Oates-Johnson & DeCourville, 1999), most research focuses on sociotropy and depression. Moreover, to date, this is the only study that has explored the role of sociotropy in eating behaviour and body image within social relationships. Considering the important role of sociotropy in social relationships, this is an important and telling area of study. Considering that sociotropy may have a mediating role, contributing to

similarities in dieting behaviour and body image satisfaction between women and their closest friends, research in this area should continue to understand the mechanisms by which this occurs. Moreover, considering that sociotropy is positively correlated to the development of eating disorders (Duemm et al., 2003) and depression (Clark et al., 1995), and the link between dieting and eating disorders (Patton, 1992), and dieting and depression (Ackard et al., 2002) developing prevention programming for individuals high in sociotropy is extremely important.

The sample of participants chosen for this study had both its strengths and limitations. Primarily, the age range of participants selected for this study was a group that has been involved in limited research in this area, as most research related to peer and dieting involves adolescents. Thus, this study provided a foundation for future research. Moreover, inviting individuals outside the university community into the study allowed for a more diverse group of participants. This meant that individuals at different stages of their lives participated in this study. As Arnett (2000) has explained, emergent adults are gaining a new sense of independence and are making decisions on their own that they were once not able to, or simply did not. However, because of the variety of individuals involved in this study and the lack of data gathered regarding their lifestyles, it was difficult to determine how independent the individuals actually were. For example, some individuals may have still been living at home whereas others may have been living on their own for over five years; some may still have been financially dependent on their parents; and some may be living in the same town as where they were in their childhood, meaning potentially having the same friends and not having been exposed to a diverse group of newer individuals from with whom to engage in relationships. Research has demonstrated that eating behaviour does differ for those emerging adults living with their parents or on their own, in comparison to those who live on a college or university campus (Laska, Larson, Neumark-

Sztainer, & Story, 2010). While this study did not identify the mechanisms by which this occurs, and did not specifically allude to dieting behaviours, it is evident that a difference does exist. Such an array of participants without additional data related to living situation and autonomy makes it more difficult to draw specific conclusions about maturity and independence, as it relates to friendship, body image and dieting. However, this variety does offer a more representative community sample, allowing for more generalizability. Researchers exploring this issue in the future may choose to ask questions about the participants' independence in order to better understand how responsible each participant is for their food choices and social life.

Moreover, this sample had a larger proportion of individuals with eating disorders than would be expected within the population. For example, a 2002 survey suggested that 1.5% of Canadian women aged 15 to 24 had an eating disorder (Government of Canada, 2006). However, this statistic is not specific to the age range used for this study (18 to 25 years old), and studies have shown that prevalence rates of anorexia and bulimia seem to increase from adolescence to young adulthood (Hoek, 2006). Thus, the national average prevalence rate of 1.5% is likely to be slightly increased if only those individuals within the age range of 18 to 25 years are considered. However, this rate is still quite small in comparison to the 10.3% of individuals within the study who identified as having an eating disorder. It may be that individuals who have concerns with body image and eating behaviour were more likely to self-select to participate in this study. However, while there was an overrepresentation of individuals with eating disorder, this consisted of only a small percent (10.3%) of the sample. Moreover, individuals may consider many types of food consumption behaviours to be "disordered" even though the Diagnostic and Statistical Manual of Mental Disorders would not consider such behaviours to be so. A better indication of diagnosed eating disorders may be the percentage of individuals receiving treatment

for an eating disorder. If this information is used (3.2% of the sample) it is much more representative of the population.

A potential shortcoming of the study design was that information was not gathered from the participant's closest friend. Having this information would have allowed for more objective comparisons between dieting behaviour and body image satisfaction, as opposed to participants' perceptions. However, the decision to include solely participants' perceptions of their closest friends' thoughts and behaviours was due to the fact that the participant was likely only affected by what she perceived. For example, if a closest friend was dieting but the participant was unaware of this, she likely would not have been affected by this behaviour. However, it may be that participants could be subconsciously aware of their closest friend's thoughts and behaviours, and therefore not acknowledge them, but still be affected by them. Future research should explore closest friend pairs, collecting data from both individuals, to explore whether this in fact does affect thoughts and behaviours related to appearance and food consumption.

The method of administering the study was also both a strength and a limitation. While the use of an online survey program, Survey Monkey, allowed the survey to be extremely accessible to individuals across Canada, it also meant that individuals without access to the internet were less likely to participate in the study. While paper copies of the study would have been made available upon request, no such requests were made. Moreover, while there was some recruitment done through posters across the community, most recruitment was done via the internet, using websites such as Kijiji and community listservs. Those without access to the internet would have therefore been less aware of the study and therefore less likely to participate. While it is assumed that most individuals have access to the internet, whether in the home, at school, or in community areas such as libraries, it is also recognized that this is not a privilege

that everyone can take advantage of. Future studies should therefore increase their offline recruitment, including making the survey more accessible in paper copy.

Lastly, participants were given the opportunity to provide feedback. Eleven participants submitted feedback, with most pertaining to interest about the subject matter of the study. A few individuals who offered feedback were confused about the wording of one or two items within the measures administered. While the items used for this study were selected based on language and age-appropriateness along with content, it may have been valuable to re-assess the applicability and comprehension of the items using a sub-sample of participants. This was not done in order to maintain the validity of the scales; however, if many individuals do not understand a specific item, the validity is compromised regardless. Thus, future studies using standardized measures that have been assessed for validity should still ensure that the population with which they are using the measures is able to understand and adequately respond to the items included. In interpreting the feedback demonstrating concern about items, no one item was expressed as confusing more than once; thus, this feedback was more likely a case of misunderstanding rather than a problem with the items themselves.

Conclusions

Through messages from the media, family and peers, women often feel an extreme pressure to be thin (Field et al., 2001; Hausenblas et al., 2004; Hutchinson et al., 2010), and such messages often create feelings of body dissatisfaction (Hesse-Biber, 1996) which can lead to dieting and other weight loss behaviours (Ackard et al., 2002; Liechty, 2010). While research has thoroughly investigated the roles of the media and family in contributing to body image dissatisfaction, the role of peers and friends has been less explored. Moreover, studies involving peers and friends have been rather limited to children and adolescents (e.g., i.e., Eisenberg &

Neumark-Sztainer, 2010; Paxton et al., 1999; Woelders et al., 2010). Although only recently and rarely used as a factor contributing to disordered eating (e.g., Duemm et al., 2003), sociotropy is a personality trait that is related to how individuals think and act in social situations (Beck et al., 2003; Clark et al., 1999; Clark et al., 1995; Oates-Johnson & Clark, 2004). Thus, this study aimed to better understand the role of sociotropy in the effect of peers and friends on women's body image satisfaction and dieting. More specifically, sociotropy was thought to moderate the relationship between a woman and her closest friend's dieting behaviour and body image satisfaction. While this was not found to be the case, further analyses demonstrated that a mediator relationship may be, in part, how these factors connect to one another. In other words, sociotropy may be a factor that connects women's body image satisfaction and dieting behaviour to those of her closest friend.

Moreover, because of the lack of research in this area, qualitative data were also collected. These data found that while most women considered their closest friend to be someone they can trust and someone who will not judge them, many women were still negatively affected by their closest friend. More specifically, a prominent theme throughout the responses was that some women compared their physical appearance with that of their closest friend, which caused them to (most often) feel less attractive, self-conscious or jealous, or to (less often) feel attractive. While this was not the most common response, as many friends made participants feel better about their bodies with supportive and positive comments about beauty, such remarks were made often enough to warrant attention. Moreover, many women stated that their eating behaviour changed when they were with their closest friend. For example, many women stated that they felt that it was more acceptable to indulge in foods considered less healthy when with their closest friend, either because they were not going to be judged, or because their closest

friend initiated such behaviours, causing participants to feel more comfortable doing the same. On the other hand, some women ate less or ate healthier when with their closest friend in order to not feel judged, or because their closest friend encouraged them to do so. Either way, it seems as though, regardless of how close one is with the closest friend, eating behaviour tends to be affected by the presence of another. One possible explanation of this behaviour is impression management, and the desire to look favourably to one's closest friend (Salvy et al., 2007).

Thus, both quantitative and qualitative analyses demonstrated that women's body image satisfaction and dieting behaviours are affected by their closest friend, sometimes in a negative manner, and that one's level of sociotropy may contribute to such relationships.

Recommendations for Future Directions

As this is a rather new area of research, several recommendations could be suggested for future research. One main suggestion for future research would be to link responses to levels of sociotropy to explore whether participants with higher levels of sociotropy made different comments about how they are affected by their closest friend than those with lower levels of sociotropy. Such links could not be made for this project due to the nature of the data collected for this project and the resources available to make such links. Sociotropy is quite unexplored in the realm of dieting and body image, and therefore any information that can be obtained about women's thoughts about their social relationships and their levels of sociotropy will provide solid foundation for future studies.

A second recommendation would be to include a clinical sample of individuals with eating disorders. Research involving sociotropy and body image has generally been within the realm of eating disorders. Thus, replicating this study within a larger sample of individuals, some

with eating disorders and some without, and then comparing the two, could offer some insight into the differences in how individuals are affected by these disorders.

Collecting data from participants' closest friends and considering the data as pair-dyads may also offer more insight into the mechanisms by which some thoughts and behaviours occur. For example, it may be that both friends in the dyad feel self-conscious around the other, or that one considers herself to be much more attractive than the other, justifying feelings of self-consciousness in the other. Considering quite a few participants suggested that they mirror the eating behaviours of their closest friend, gaining insight into whether the closest friend has similar perceptions of the participant or if she does in fact initiate much of the behaviour would be valuable in understanding the mechanism behind these friendship dynamics.

Lastly, gathering more information about participants may help understand what other factors may be at play in the relationship between closest friend dyads' eating behaviour and body image satisfaction. Sociotropy appears to be a telling link. However, research has demonstrated that media and family also play large roles in how women feel about their bodies and how they react to such feelings by controlling their food consumption. Thus, additional information about how women are affected by messages within the media, how much they internalize the thin ideal, what kinds of messages about thinness, beauty and eating they received from their family while growing up, and what kind of feedback they have received about their body and their eating habits from family members and close friends may all contribute to their present body image. Thus, by taking all these things into consideration, a more holistic understanding of how body image, and thoughts and behaviours regarding food are formed, and how they relate to sociotropy.

In terms of future intervention directions, it is clear that friend dyads influence each other, both implicitly and explicitly, specifically regarding their body image and eating behaviour, amongst other things. While some of the communication is verbal and explicit, much of it is interpretations about friends' thoughts and actions, and therefore can be skewed. Encouraging open and honest communication amongst friends about feelings of body image and dieting may dispel feelings of self-consciousness and jealousy. Moreover, Kelly and colleagues (2005) demonstrated that adolescent girls who had high body satisfaction were more likely to have friends and family who supported positive feelings toward the self, and encouraged physical activity and eating. If friendship dyads or groups can create positive, supportive and safe spaces to talk about feelings related to body image and eating behaviour, this may positively influence how individuals feel about their bodies. More specifically, if myths about the reality of the thin ideal can be dispelled within such spaces, then it may be less likely that individuals will feel the need to attain such ideals, as Milkie (1999) inferred. If such an approach is taken, behaviours such as "fat talk" (Tucker et al., 2007) need to be monitored, as this may further degrade feelings of body image satisfaction (Tucker et al., 2007). There are often beliefs that thinness will improve friendships (Gerner & Wilson, 2005), and considering the strong need to belong of individuals (Baumeister & Leary, 1995), it is important to dispel such myths, and the best place to start is likely with an individual one trusts the most—their closest friend.

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Table 1

Correlations and Means between Variables of the Pooled Sample

Measure	1	2	3	4	5	6	7	M	SD
1. Age	-	-	-	-	-	-	-	21.96	2.10
2. BMI	.095	-	-	-	-	-	-	22.43	5.69
3. Eating Disorder	.216**	-.060	-	-	-	-	-	-	-
4. Dieting	-.145	.093	-.333**	-	-	-	-	16.01	9.34
5. Friend Dieting	.076	.090	-.156	.103	-	-	-	1.86	2.75
6. Body Image	.169*	-.356**	.373	-.549**	-.157*	-	-	31.94	10.23
7. Friend Body Image	.034	-.179*	.203*	-.144	-.264**	.358**	-	5.94	2.50
8. Sociotropy	-.079	.146	-.267**	-.282**	.250**	-.485**	-.282**	74.94	19.08

Note: Correlations for demographic information and specific measures used in the study ($n = 156$). For all scales except for Eating Disorders, higher scores are indicative of more extreme responding in the direction of the construct assessed. Eating disorders were assessed using yes or no responses, where the response “yes” was scored as 1 and “no” was scored as 2. BMI = Body Mass Index; Dieting = scores on Restraint Scale of Dutch Eating Behaviour Questionnaire; Friend Dieting = closest friend’s perceived dieting behaviour, scored on a 10-point Likert scale by the participant; Body Image = scored on the Body Appreciation Questionnaire; Friend Body Image = closest friend’s perceived body image satisfaction, scored on a 10-point Likert scale by the participant; Sociotropy = scores on Sociotropy scale of the Revised Personal Style Inventory.
 * $p < .05$. ** $p < .01$.

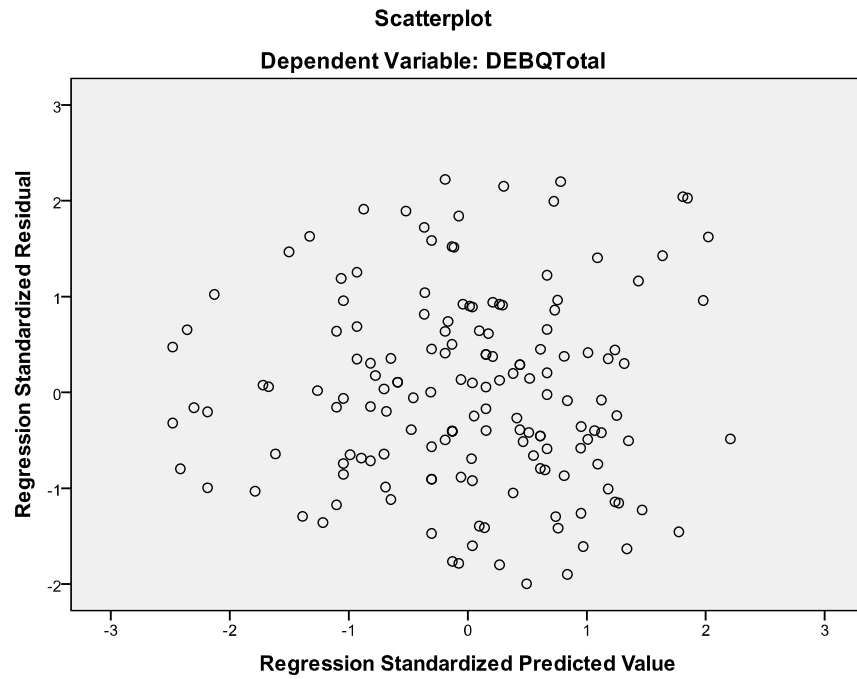
Table 2

Summary of Group Means, Categorized by Dieting and Body Image Satisfaction

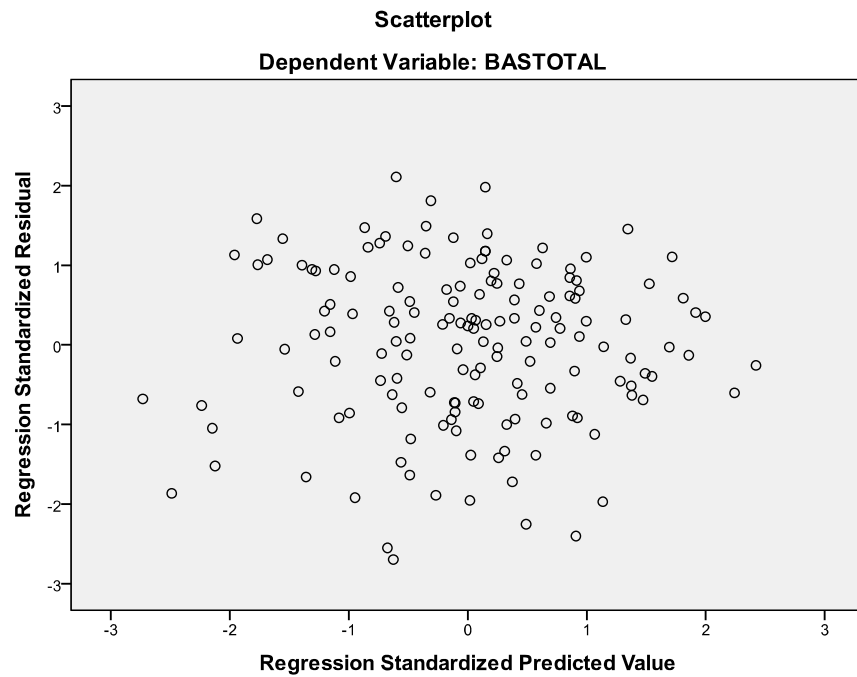
	<u>Dieting</u>		<u>Body Image</u>	
	Yes	No	Yes	No
<i>n</i>	42	114	79	77
DEBQ	22.62 (8.45)	13.57 (8.46)*	11.73 (7.39)	20.39 (9.14)*
BAS	26.60 (9.84)	33.90 (9.70)*	38.86 (5.68)	24.83 (8.91)*
PSI	77.98 (19.03)	73.82 (19.07)	69.44 (18.93)	80.57 (17.65)*

Note: $n = 156$. Values in parentheses represent standard deviations. For all scales, higher scores are indicative of more extreme responding in the direction of the construct assessed. Dieting = responses (yes or no) to question “are you currently dieting?”; Body Image = responses (yes or no) to question “are you satisfied with your body appearance?”; BMI = Body Mass Index; DEBQ = scores on Restraint Scale of Dutch Eating Behaviour Questionnaire; BAS = scored on the Body Appreciation Questionnaire; PSI = scores on Sociotropy scale of the Revised Personal Style Inventory.

* Groups (yes and no) differ significantly, according to Independent Samples t-test, on specific scale. $p < .001$



a)



b)

Figure 1. Residual scatterplots from regression analyses of a) amount of dieting as indicated by scores on the Restraint scale of the Dutch Eating Behaviour Questionnaire; b) amount of body image satisfaction as indicated by scores on the Body Appreciation Scale.

Appendix A

Demographics and Quantitative Measures

Section A: Demographic information

In this section, we will ask you about some personal information. This is for statistical purposes so that we may know the composition of people in the project.

1. Age _____
2. Gender: _____
3. Current marital Status (please choose one):
 - a. Married/common-law
 - b. Widowed
 - c. Divorced/separated
 - d. Single
4. Are you currently a student? Yes / No
5. Are you currently employed? Yes /No
6. What is your ethnicity? _____
7. Using your current weight and height, calculate your Body Mass Index (BMI) score using the chart provided. _____

BMI	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Height (inches)	Body Weight (pounds)																
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287

Adapted from “Body Mass Index—What is BMI?”, by My Personal Trainer (n.d.). Retrieved September 11, 2011, from http://www.body-perfect-fitness.com/Body_Mass_Index.html

8. Do you have/have you had a diagnosed eating disorder? YES NO
 If yes, are you seeking treatment for your eating disorder? YES NO

Section B – RSDEBQ

Please respond to the following questions by clicking on the appropriate number according to the following scale:

1. If you have put on weight, do you eat less than you usually do?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

2. Do you try to eat less at meal times than you would like to eat?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

3. How often do you refuse food or drink offered because you are concerned about your weight?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

4. Do you watch exactly what you eat?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

5. Do you deliberately eat foods that are slimming?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

6. When you have eaten too much, do you eat less than usual the following day?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

7. Do you deliberately eat less in order not to become heavier?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

8. How often do you try not to eat between meals because you are watching your weight?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

9. How often in the evenings do you try not to eat because you are watching your weight?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

10. Do you take into account your weight with what you eat?

1	2	3	4	5
Never	Seldom	Sometimes	Often	Very Often

Section C: BAS

Please click on the number that best reflects how you feel about your body, where:

1. I respect my body.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

2. I feel good about my body.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

3. On the whole, I am satisfied with my body.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

4. Despite its flaws, I accept my body for what it is.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

5. I feel that my body has at least some good qualities.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

6. I take a positive attitude toward my body.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

7. I am attentive to my body's needs.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

8. My self-worth is independent of my body shape or weight.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

9. I do not focus a lot of energy being concerned with by body shape or weight.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

10. My feelings toward my body are positive, for the most part.

1	2	3	4	5
Never	Seldom	Sometimes	Often	Always

11. I engage in healthy behaviours to take care of my body.

1	2	3	4	5
---	---	---	---	---

Never Seldom Sometimes Often Always

12. I do not allow unrealistically thin images of women presented in the media to affect my attitudes toward my body.

1 2 3 4 5
 Never Seldom Sometimes Often Always

13. Despite its imperfections, I still like my body.

1 2 3 4 5
 Never Seldom Sometimes Often Always

Section D: PSI-So

Here are a number of statements about personal characteristics. Please read each one carefully, and indicate whether you agree or disagree, and to what extent, by clicking a number, where:

1. I often put other people's need before my own.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

2. I find it difficult to be separated from people I love.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

3. I am very sensitive to the effects I have on the feelings of other people.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

4. I am very sensitive to criticism by others.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

5. I worry a lot about hurting or offending other people.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

6. It is hard for me to break off a relationship even if it is making me unhappy.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

7. I am easily persuaded by others.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

8. I try to please other people too much.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

9. I find it difficult if I have to be alone all day.
 1 2 3 4 5 6
 Strongly Disagree Disagree Slightly Disagree Slightly Agree Agree Strongly Agree

10. I often feel responsible for solving other people's problems.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

11. It is very hard for me to get over the feeling of loss when a relationship has ended.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

12. It is very important to me to be liked or admired by others.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

13. I feel I have to be nice to other people.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

14. I like to be certain that there is somebody close I can contact in case something unpleasant happens to me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

15. I am too apologetic to other people.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

16. I am very concerned with how people react to me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

17. I get very uncomfortable when I'm not sure whether or not someone likes me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

18. It is hard for me to say "no" to other people's requests.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

19. I become upset when something happens to me and there's nobody around to talk to.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

20. I am most comfortable when I know my behaviour is what others expect of me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

21. I often let people take advantage of me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

22. I become very upset when a friend breaks a date or forgets to call me as planned.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

23. I judge myself based on how I think others feel about me.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

24. It is hard for me to let people know when I am angry with them.

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

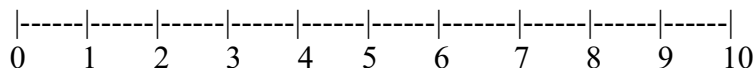
Appendix B
Qualitative Questions

Instructions:

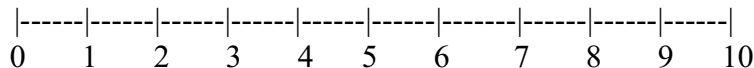
Think about your closest friend who is a woman. She may be your best friend, or someone that you feel comfortable confiding in, going out with, and so on. Please answer the following questions that refer to your “closest friend” with this friend in mind. To help you, you can type your closest friend’s name (or pseudonym) here: _____.

Please answer these questions in as much detail as you feel comfortable doing. There are no right or wrong answers, just be as honest as you can.

1. Are you currently dieting? If yes, please tell us a little about your diet and your reason for being on a diet.
2. Do you think your closest friend is currently dieting?
 ___ Yes ___ No (please go to question 4)
3. If you answered “yes” to the above question:
 - (i) What makes you think that she is dieting?
 - (ii) On a scale from 0 to 10, where 0 is “not dieting” and 10 is “restricting all foods all the time”, to what intensity would you describe your closest friend’s eating behaviour?



4. Are you satisfied with your body appearance? Why or why not? Please describe your thoughts and feelings about your body appearance.
5. (i) How satisfied do you think that your closest friend is with her body? Please use the scale below where 0 is “not satisfied at all” and 10 is “very satisfied all the time?”



- (i) What has she said or done that makes you think she feels this way?

The next set of questions helps us to better understand your relationship with your closest friend.

1. How close would you describe your relationship?
2. How does your closest friend make you feel about your own body appearance?
3. What does she do or say to make you feel this way? How do you react or respond to this information?
4. Sometimes the way we feel about our body appearance changes when we are with other people. To help us understand your relationship with your closest friend, please explain whether the way you think about your body appearance changes when you are with or

when you think about your closest friend? If they do, please explain what kind of changes you experience and why you think such changes occur.

5. Does your eating behaviour change when you are with or when you think about your closest friend? If it does, please explain what kind of changes in behaviour you experience, and why you think such changes occur.

Appendix C

Hard Copy Recruitment Poster

Appendix D

Electronic Recruitment Notices

Research Survey on Eating Behaviour and Body Image

Are you a woman between the ages of 18-25? You're invited to participate in a study about eating behaviour and body image.

This study is being conducted by the Department of Psychology at Lakehead University, and will explore body image, eating behaviour and your relationship with your closest friend. The study involves completing an online questionnaire (approximately 30 minutes) that can be completed from any computer.

All responses are kept confidential. All participation is voluntary.

All participants will be eligible to win one of four \$25 gift certificates to Tim Horton's.

For more information, please go to <http://www.surveymonkey.com/s/bodyimagestudyLU> or email Taslim at bodyimagestudyLU@gmail.com or leave a message for Taslim at 807-343-8168.

Appendix E

Letter of Information to Potential Participants

Name of Study: Eating Behaviour and Body Image Study

Researchers: Taslim Alani, MA Clinical Psychology student & Dr. Josephine Tan, Psychology faculty and project supervisor, Lakehead University.

Thank you for your interest in this study. We would like to give you more information about it so that you will be able to make an informed decision about your participation.

This study is open to women between the ages of 18 to 25. It examines women's eating behaviour and body satisfaction in relation to those of their peers, specifically their closest female friend. You will be asked about your eating behaviours and body image satisfaction, and that about your closest friend as you see it, and about your relationship with your friend. The questions will be presented on a weblink separate from this one so that your responses cannot be traced back to you. Your responses will be kept confidential and anonymous. Completing the survey will take between 30 minutes and 1 hour, depending on your speed and how detailed your responses are.

Your participation in this study is completely voluntary which means that you may choose not to answer specific questions or answer in as much or as little detail as you wish. You can drop out of the study any time. As previously mentioned, we will keep all your answers confidential, and anonymous. We cannot track your answers back to you. The information will be stored securely with Dr. Josephine Tan (project supervisor) at Lakehead University for 5 years after which time it will be destroyed. There is no anticipated physical or psychological risk or benefit to you as a result of your participation. You can request for a summary of the results to be shared with you. As a token of our thanks for your help in this study, we will enter you into a raffle to win one of four \$25 gift certificates from Tim Horton's. If you are an Introductory Psychology student at Lakehead University Thunder Bay campus, you will be given 1 bonus point towards your course mark.

If you have any questions about participating, feel free to contact Taslim Alani (talani@lakeheadu.ca) or leave a message at 807-343-8168, or contact Dr. Josephine Tan at (jtan@lakeheadu.ca, 807-346-7751).

This research has been approved by the Lakehead University Research Ethics Board. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research team, please contact Sue Wright at the Research Ethics Board at 807-343-8283 or swright@lakeheadu.ca.

Thank you for your time!

Appendix F

Informed Consent Form

INFORMED CONSENT FORM
Dieting and Body Image Study

Researchers: T Taslim Alani and Dr. Josephine Tan

Aim: To examine the relationship between an individual's eating behaviour and body image satisfaction with those of their closest friend.

Procedure: Participants will complete an online research survey that will take between 30-60 minutes, depending on their speed and degree of detail in their answers.

Risks/Benefits: No anticipated physical or psychological risk or benefit from participating.

Confidentiality: All information collected will remain confidential and anonymous. The research survey is hosted on a separate weblink where no identifying information is requested. All of the information will remain securely stored in Dr. Tan's lab at Lakehead University for 5 years.

Voluntary Nature: Participation in this study is completely voluntary. Participants may withdraw from this study at any time, and can choose not to answer specific questions or provide as little or as much details as they wish.

Feedback: You can request for a summary of the results below.

Raffle draw: As a token of our thanks for your help in this study, we will enter you into a raffle to win one of four \$25 gift certificates from Tim Horton's. If you are an Introductory Psychology student at Lakehead University Thunder Bay campus, you will be given 1 bonus point towards your course mark.

Ethical Concerns: For ethical concerns, feel free to contact Sue Wright at the Lakehead Research Ethics Board (swright@lakeheadu.ca; 807-343-8283).

If you are a winner in our raffle draw, how may we contact you in the spring of 2012?

Please provide your name and contact information:

Name:

Email address:

Phone number:

Result of the study will be available in the summer of 2012. Do you wish to receive a copy?

YES

NO

If yes, please provide alternate contact information if it is different from the one above:

If you are an Introductory Psychology student on Lakehead University Thunder Bay campus, you will receive 1 bonus point towards your course mark. Please provide your name, student ID number, and name of your Introductory Psychology professor:

If you wish to continue with this study, please click on the PROCEED button below. By clicking on this button, you are giving your informed consent to participate in this study, and you will be directed to a separate weblink containing the research survey. We will not be able to track your survey back to you.

PROCEED

Appendix G

Debriefing

Debriefing Letter
Body Image and Eating Behaviour in Peer Relationships

Thank you for participating in this study. We would to provide you with more detailed information about the research.

The purpose of the research is to explore how one's body appearance satisfaction and eating behaviour corresponds to one's closest friend's body appearance satisfaction and eating behaviour. Many women are dissatisfied with their body appearance and many women choose to diet to control their body weight and shape. Research has shown that people might change their behaviours to match those of their peers to gain social acceptance. Best friends have been found to be extremely influential in changing behaviours in adolescents, but this has been less explored in young adults. It is possible that young women's dieting behaviour and their body appearance satisfaction might match those of their closest friend, particularly if the women value social relationships highly. This study therefore examines whether the degree of importance that young women place on close social relationships influences the degree of similarity in eating behaviours and body appearance satisfaction in themselves and their closest friend.

If you are interested in getting more information about dieting, eating disorders, and external influences on one's eating behaviours and body appearance satisfaction, we have provided a short list of reading towards this end of this debriefing. We have also provided a list of mental health resources in Thunder Bay in case you or someone you know might be interested in them for their own needs.

If you have any questions or concerns, please feel free to contact the researchers Taslim Alani (talani@lakeheadu.ca, tel 807-343-8168) or Dr. Josephine Tan (jtan@lakeheadu.ca; 807-346-7751). For ethical concerns, feel free to contact Sue Wright at the Lakehead Research Ethics Board (swright@lakeheadu.ca; 807-343-8283).

Thank you.

Recommended Readings on the Topic:

Grogan, S. (2008). *Body Image : Understanding Body Dissatisfaction in Men, Women, and Children*. New York: Taylor & Francis.

Hesse-Biber, S. (1996). *Am I Thin Enough Yet? The Cult of Thinness and the Commercialization of Identity*. New York, NY: Oxford.

Ogden, J. (2010). *The Psychology of Eating: From Healthy to Disordered Behavior*. Oxford: Wiley.

To learn more about eating disorders, please visit the National Eating Disorders Information Centre at www.nedic.ca or by phoning 1-866-NEDIC-20.

Mental Health Services

Thunder Bay Counselling Centre: 807-684-1880 or www.tbaycounselling.com

They provide community based solutions to individuals, couples, and families. Services are confidential and respond to the need and life challenges of people living in Thunder Bay.

Thunder Bay Crisis Response Services: 1-888-269-3100 or 807-346-8282

They offer crisis support for individuals experiencing a mental health crisis. They provide immediate crisis assessment and intervention, referrals and follow-up for individuals, their families and friends, and also provides information and linkages to resources and services in the community.

Distress Centres Ontario: visit www.dcontario.org for local phone number

They offer support and a variety of services in your community. They are available 24 hours a day, 7 days a week, and have Suicide Survivor programs, support services for youth, telephone call out programs for vulnerable people, mental health crisis line services and more.

Telehealth Ontario: 1-866-797-0000 or

<http://www.health.gov.on.ca/en/public/programs/telehealth/>

Telehealth Ontario is a free, confidential telephone service you can call to get health advice or general health information from a Registered Nurse. That means quick, easy access to a qualified health professional, who can assess your symptoms and help you decide your best first step. We can help you decide whether to care for yourself, make an appointment with your doctor, go to a clinic, contact a community service or go to a hospital emergency room.

Lakehead University Student Health and Counselling Centre: (807) 346-7740

<http://healthservices.lakeheadu.ca/menu.php?id=64>

Lakehead University Student Health and Counselling Centre offers free and confidential counselling services to students and staff of the university. They also have information on their website on how to cope with certain physical and mental health problems, and have information about resources within the community.

Confederation College Counselling Services: (807)475-6110 or 1-800-465-5493

<http://www.confederationc.on.ca/counselling/>

Confederation College Counselling Services offer a wide variety of counselling services including personal counselling, e-counselling, and other mental health resources, including for crisis situations.

Appendix H

Feedback to the Researchers

Thank you for your participation in this study! If you have any comments or feedback about the study or your experience in completing it, please feel free to include it here.

Alternatively, you can email the researchers if you have any questions or concerns at talani@lakeheadu.ca or jtan@lakeheadu.ca