

EveryBODY Should Succeed: The Relationship Amongst Students' Body Appreciation,
Academic Interference, and Achievement Emotions

by

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Abstract

Despite the continuously narrowing body ideals and corresponding body dissatisfaction in young adults today, limited attention has been given to examining the impacts of students' body image in their school environment. Body preoccupations, such as a fixation on appearance, food, and exercise, can cause disruptions to academic functioning, known as academic interference.

Expanding on previously studied negative associations between body perception and school grades, the purpose of this study was to measure how university students' attitudes about their bodies, specifically their body appreciation, influence their achievement emotions. We used the notion of academic interference as a type of control appraisal within Pekrun's Control-Value Theory of Achievement Emotions. With a quantitative correlational survey design, we collected data from 295 university students. To answer our research questions, we used descriptive and correlational data, and linear regressions with mediation analyses. Results of this study suggest that: both men and women students experience body dissatisfaction, levels of body appreciation and academic interference contribute to the types of achievement emotions experienced in relation to the classroom, and academic interference partially mediates the relationship between body appreciation and emotions. The results are discussed in terms of implications for both researchers and educators.

Preface

This thesis is an original work by Devon Chazan. The research project, of which this thesis is a part, received ethics approval from the University of Alberta's Research Ethics and Management Online service, No. Pro00081407, May 29th, 2018.

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EveryBODY Should Succeed: The Relationship Amongst Students' Body Appreciation,
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Young people fight a narrower ideal of beauty than ever before. Although various sociocultural factors influence body image, including family and friends, messages about appearance in the media are considered to be the most influential source for young adults (Grogan, 2017). Exposure to “ideal” bodies in the media is more pervasive than ever due to the drastic rise in use of social networking websites and apps that centre on sharing images. The ideal body image is no longer solely perpetuated through a small elite group of models and celebrities in magazines but is now even exposed to individuals through their peers by publicly sharing highly edited photos. Increased exposure to narrow appearance ideals has a negative effect on body satisfaction, which in turn is linked to debilitating mental and physical health consequences (e.g., Rawana, 2013). In contrast, appreciating one’s body serves as a protective factor to some of the vulnerabilities of body dissatisfaction and the internalization of the ideal body (Tylka & Wood-Barcalow, 2015a). Due to their vast media exposure, perhaps it is unsurprising then that body dissatisfaction increases and peaks in early adulthood (Grogan, 2017). Many early adults are college students and, therefore, negative body perceptions have important implications for how they conduct themselves there, for example, by impacting their social life through the avoidance of social activities that highlight the body (Ura & Preston, 2015). Additionally, independent of their true weight or body shape, students’ self-perceptions of overweight status and body dissatisfaction have been shown to relate to lower GPA (e.g., Tallat, Fatima, Fiza, & Adiva, 2017). In short, body image concerns appear to interfere with adaptive academic functioning. This process has become known as *academic interference* and refers to diminishing classroom concentration, class attendance, and homework completion behaviours

attributable to body image concerns (Yanover & Thompson, 2008a). It is critical to understand the body-related factors that may be contributing to or protecting against maladaptive achievement outcomes in the college context. Unlike negative body perceptions, body appreciation may promote positive achievement outcomes and protect against the interference of academic functioning associated with body preoccupation.

The purpose of the current study was to examine the relationship amongst university students' experiences of body appreciation and academic interference with an achievement outcome other than GPA. To do this we used Pekrun's Control-Value Theory of Achievement Emotions (Pekrun, Frenzel, Goetz, & Perry, 2007) to guide our research. Broadly, the theory posits that students' subjective appraisals of control and value for achievement outcomes and activities predict the types of emotions they experience. We treated interference in academic functioning due to body preoccupation as a form of appraisal and tested its association with five discrete emotions: hopelessness, anxiety, shame, pride, and enjoyment.

Literature Review

Body Image

Body image is a multidimensional construct related to the mental picture people hold of their bodies (Cash, 2004). It encompasses attitudinal, perceptual, and behavioural components (Grogan, 2017). The thoughts and feelings revolving around individuals' bodies are representative of the attitudinal component; whereas, the perceptual aspect includes the physicality of how people view their body size and shape in relation to its actual appearance (Cash, 2004). Both the attitudinal and perceptual dimensions of body image direct how the behavioural dimension manifests. A negative body image is characterized by negative cognitions and feelings associated with a strong investment in appearance, high levels of body

dissatisfaction, and distorted body perceptions (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Body image disturbance is the extreme behavioural consequence of a negative body image and tends to interfere with daily functioning. Such disturbance is associated with unhealthy dieting and eating patterns (Grogan, 2006), over-exercising (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006), cosmetic surgery (Sarwer & Crerand, 2004), and a preoccupation with one's body weight (Yanover & Thompson, 2008a). Even in less extreme cases of body image disturbance, body dissatisfaction greatly impacts the lives of many individuals due to its' associations with low overall wellbeing and low self-esteem (Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010; Meland, Haughland, & Breidablik, 2006). Although body image is impacted by individuals' social identities (e.g., gender, age, culture, socioeconomic status, ability), a positive body image is typically defined as appreciating the body's functionality (Avalos, Tylka, & Wood-Barcalow, 2005), accepting its unique features (Wood-Barcalow, Tylka, & Augustus-Horvath, 2010), and holding an accurate perception of its shape. In turn, these positive attitudes and perceptions lead to adaptive behaviours, such as healthy activity, eating, and self-care (Tylka & Wood-Barcalow, 2015a). For ease of readability, throughout this work, negative body image and body dissatisfaction will be used interchangeably as will positive body image and body appreciation (for specific definitions of body-related constructs please refer to Appendix A).

Body Image Over Time

Regardless of its level of consciousness in each individual, everyone has a body image. However, body image is not innate: It is developed over time and is evolving. According to the Tripartite Influence Model (Thompson et al., 1999), body image begins developing during childhood through parental and peer modeling of appearance-related attitudes and behaviours, as

well as through messages in the media. For women, since the beginning of the 20th century, society at large has idealized the thin body and has perpetuated this ideal through unrealistic and unattainable body stereotypes (Grogan, 2017), often leading to the development of a negative body image early in life. Historically, the literature has placed much less attention on addressing men's body image concerns due to the faulty belief that they are at little risk for body dissatisfaction. For men, while the process of body image development is similar to women's, the ideal is different. Society's ideal for men is also restrictive to a certain body type; however, it centres around the drive for muscularity (Daniel & Bridges, 2010). They, too, set unattainable personal appearance goals, stemming from the increasing images of lean and extremely muscular men portrayed in the media, which in turn, can also lead to experiences of body dissatisfaction (Olivardia, Pope, Borowiecki, & Cohane, 2004).

Negative body image. Focusing on a negative body image, Spiel, Paxton, and Yager (2012) demonstrated the power of this ideal in their research with boys and girls ages 3-5 who already hold negative attitudes towards larger bodies and show a preference to thin bodies of same-gendered children. At this young age, children are aware of the social condemnation of larger bodies; however, it is typically only when they reach elementary age that this thinking becomes internalized and concern with their own shape and weight emerges. McCabe and Ricciardelli (2003) showed that 50% of boys and girls aged 8-11 years were dissatisfied with their body size with both genders revealing concerns regarding being overweight. The boys were more likely to have these concerns due to perceiving their muscles to be inadequate, whereas the concern in girls came more so from a desire to be thinner. In this regard, boys are more likely to perceive themselves as underweight (Wilson, Viswanathan, Rousson, & Bovet, 2013) and girls as overweight (Talamayan, Springer, Kelder, Gorospe, & Joye, 2006). Nonetheless, Maloney,

McGuire, Daniels, and Specker (1989) measured dieting preoccupations of 318 children in grades 3 through 6 and found that both boys and girls were implicated with 31% and 41%, respectively, having once tried to lose weight. Adolescence is a period of increased body image concern due to the numerous physical, social, and emotional changes during this time. Body dissatisfaction steadily increases until the beginning of adulthood, subsequently remaining present throughout most of adult life (Grogan, 2017). In later life, body appearance becomes less of a focus, whereas body functionality increases in perceived importance. For this reason, the over 60 age group shows the lowest levels of body dissatisfaction across the lifespan (Grogan, 2017; Kipela, Becker, Wesley, & Stewart, 2015).

Positive body image. Although positive body image is experienced more readily in older adults, it can also be fostered in youth. Because peer and media influences do not become most influential until mid-childhood, parents are the most potent source of body image messaging in early life. Parents who highlight their children's developing skills and abilities, as opposed to their innate appearance, and who model body acceptance and positive attitudes towards food and physical activity, promote a greater positive body image (Rodgers & Chabrol, 2009). As such, when children possess these adaptive body attitudes as they age, it helps them to think critically about the messages they encounter through peer relations and the images they see in the media (Levine, Smolak, & Schermer, 1996).

Body Appreciation

A positive body image entails much more than body satisfaction. In the literature, positive body image is often operationalized as body appreciation. Various adaptive outcomes are associated with a positive body image that centres on the way that individuals appreciate their body's functionality, praise its individual features, and focus on its health (Tylka & Wood-

Barcalow, 2015a). In terms of food consumption, intuitive eating, defined as enjoying food in an unrestricted manner while being mindful of the body's cues of hunger and satiety, is positively associated to body appreciation (Augustus-Horvath & Tylka, 2011). Participation in regular physical activity, when done so for health promotion, is also found to be positively linked with body appreciation (Homan & Tylka, 2014). More generally speaking, feelings of appreciation for the body are positively related to life satisfaction, positive affect, and self-compassion (Wasylikiw & Butler, 2013), while negatively related to perfectionistic tendencies (Iannantuono & Tylka, 2012), maladaptive diet behaviours, and depressive symptoms (Gillen, 2015).

Specifically, in terms of emotions, perceptions of the body are linked to “self-conscious” emotions, such as shame, guilt, and pride, which are elicited when individuals either meet or fail to meet socially accepted standards in relation to their bodies (Sabiston et al., 2010). For instance, people may experience shame when feeling like they do not measure up to society's standard of beauty (e.g., “I am fat”) or pride when engaging in socially valued behaviours (e.g., “I can run a 5K”). Body-related positive affect is linked to adaptive motivation for health behaviours (Castonguay, Pila, Wrosch, & Sabiston, 2014; Sabiston et al., 2010). An emphasis on functionality, rather than appearance, as body appreciation upholds, would therefore likely be associated with positive body-related emotions. More generally, body appreciation is regarded as a type of protective factor (Andrew, Tiggemann, & Clark, 2014) working against pressures to conform to the narrow appearance ideals that interfere with various areas of one's life, including psychosocial and occupational functioning, if these effects are not buffered.

Body Image and Academic Achievement

One area where the debilitating consequences of a negative body image, and lack of positive body image, are frequently overlooked is in the school environment. Despite school

being the main place youth spend the majority of their time, aside from the home, the impact of body image on academic functioning has received limited empirical attention. Existing research focuses mainly on the relationship between body size perception/satisfaction and academic success as indicated by grades. Although many studies indicate that overweight and obese students do not achieve the same level of academic performance as their healthy-weight range classmates (e.g., Anderson & Good, 2017), researchers consistently find that it is, in fact, their self-perception of being overweight that plays a stronger role in the association. For example, studies from across the globe have found that female students who perceive they are too heavy, regardless of their true weight, tend to have lower grades than those who have accurate body perceptions and who are satisfied with their bodies. Chinese adolescent females who self-reported to be overweight had lower GPAs than girls who did not perceive themselves to be overweight (Xie et al., 2006). The students also reported more frequent experiences of stress from schoolwork and depressive symptoms than those who did not misperceive their body weight. Academic grades were lower when weight dissatisfaction was higher in a sample of 30000 Finnish females (Mikkilä, Lahti-Koski, Pietinen, Virtanen, & Rimpelä, 2003) regardless of whether the students perceived themselves as underweight or obese. Similarly, Florin, Shults, and Stettler (2011) replicated these results in the United States with a nationally represented sample of over 15000 male and female adolescents. Moreover, in a Pakistani university, students with body dissatisfaction and concerns about an unattractive body part, obtained lower grades than their body-satisfied peers (Tallat et al., 2017). Taking it one step further, Duncan and colleagues (2017) found students at healthy weights, who perceived themselves to be overweight, to have significantly more school absenteeism than those with accurate body perceptions. Students' self-perception of overweight status is also a greater predictor of self-

esteem and psychological distress than are standard medical cut-offs for weight categorization (e.g., BMI) (Jáuregui-Lobera, Ríos, Santiago-Fernández, Garrido-Casals, & Sánchez, 2011). Researchers have yet to examine the protective factor of positive body image in terms of students' academic functioning, in reference to grades or other outcomes.

Academic interference. Yanover and Thompson (2008a, 2008b) coined the term 'academic interference' to denote the behavioural manifestation of body image disturbances that impact academic performance. Such disturbances include a preoccupation with appearance, eating, and exercise that interfere with class attendance, attention paid in class, and homework completion behaviours. Academic interference, otherwise stated, is the academic functioning difficulties that are accounted for by eating and body image-related symptoms. The researchers found university students' level of academic interference to have significant negative associations with GPA (Yanover & Thompson, 2008a). This association was stronger for a subsample of students with severe body image disturbances. Multiple dimensions of negative body image are associated with academic interference, such as body satisfaction, appearance evaluation, and overweight preoccupation. However, an overweight preoccupation is the dimension of body image most strongly associated with academic interference (Yanover & Thompson, 2008b).

Although grades are unquestionably important in school, there are other achievement outcomes that have not been examined and may also be influenced by students' body image. Emotions that are experienced in educational settings, called achievement emotions, influence students' learning, including their task persistence and goals (Pekrun, Titz, & Perry, 2002). Due to their significant importance to learning, it seems reasonable to investigate whether they are affected by body image and academic interference in the same way as grades.

Theoretical Framework: The Control-Value Theory of Achievement Emotions

The Control-Value Theory of Achievement Emotions is an integrative motivational framework that is used to study the arousal of experiences of both positive and negative valence emotions in educational settings (Pekrun et al., 2002). The theory posits that students' appraisals of being in control of, or out of control of, achievement activities and outcomes of value to them, determine the emotion aroused. Achievement emotions are most strongly affected by control and value appraisals that relate to achievement beliefs. In turn, the emotions experienced have a predictive relationship with students' academic achievement. Positive valence achievement emotions influence the use of self-regulated learning strategies, increase interest and motivation, and facilitate cognitive resources required for focused attention. In contrast, negative valence achievement emotions influence maladaptive learning mechanisms. The effects of emotions on achievement are mediated by these mechanisms (Pekrun et al, 2007).

Control and value appraisals combine to give rise to different types of achievement emotion, of which, three broad categories: prospective outcome, retrospective outcome, and activity emotions (Pekrun et al., 2007). Prospective outcome emotions occur when positively valued success or negatively valued failure is to be expected, and the degree of control over the outcome is either high, medium, or low. Anxiety may occur when the focus is on avoiding failure and when control is uncertain. Hopelessness may occur in both instances of value when control is low, and therefore makes the outcome of either attaining success and avoiding failure feel impossible. Retrospective outcome emotions arise after academic successes and failures of great subjective importance. Control appraisals are made by causal attributions for the outcomes, designating responsibility to the self (i.e., internal) or other (i.e., external) (Weiner, 1985). Shame is aroused when negatively valued failure is attributed to the self. Likewise, pride is

induced when positively valued success is attributed to the self. Finally, students' experience of activity emotions during an achievement-related task is dependent on whether it is valued positively or negatively and whether the student feels high or low levels of control to capably perform the activity. For instance, enjoyment may arise if the activity is positively valued and the student feels efficacious in working with the task. Through the psychological processes that mediate effective learning, positive emotions consistently positively predict academic achievement, whereas negative emotions negatively predict achievement (e.g., Pekrun, Lichtenfeld, Marsh, Murayama, & Goetz, 2017).

To date, no research has conceptualized body-related cognitions as a type of appraisal that could influence achievement emotions. However, Yanover and Thompson's notion of academic interference (2008a), as previously described, may be akin to control-value appraisals in students with body image disturbances. In higher education settings, such as universities, it is fair to assume that most students place high subjective importance on achievement outcomes and activities, given their enrolment is largely autonomous and due to interest and/or future goal attainment (e.g., getting desired career). The preoccupation with appearance, eating, and exercise that impact concentration and adaptive academic functioning (e.g., attendance, homework completion) may serve to impact the control appraisals for students with this interference. Individuals with extreme body image disturbances are assumed to have a need for control over their body (Polivy & Herman, 2002), an essential feature in the development of an eating disorder (e.g., a strong need to control body weight). Ironically, this high need for control over the body and engagement in associated thinking and behaviour, in turn, removes control away from other areas, such as adaptive academic functioning. For instance, perceived control for prospective outcomes is likely to be medium or low for students with interfering preoccupations.

Presumably, it would be difficult for students to feel high subjective control, to achieve success or avoid failure, while their cognitive resources are exhausted with academically intrusive body concerns. In result, low control appraisals would increase the experience of negative valence emotions, such as hopelessness and anxiety.

Additionally, much of body image researchers' work is concerned with its association with maladaptive perfectionism and tendencies toward self-criticism (e.g., Wade & Tiggemann, 2013). Many individuals with body image disturbances hold themselves to very high, and often unattainable, standards. The ensuing inevitable failure is frequently internalized with patterns of self-blame. It is presumable to think that this pattern of internal causal attributions may translate to the appraisals of retrospective achievement outcomes. For instance, a student with high levels of academic interference may attribute an exam failure to the self (e.g., not being smart enough, not working hard enough) and feel shame. Conversely, a student with low levels of academic interference might make self-attributions for retrospective success (e.g., being bright, working hard) and consequently have feelings of pride. In a similar light, when a classroom activity is valued positively, and academic functioning is not interfered, students may feel high subjective control to work with the given task and experience enjoyment in doing so.

The Current Study

Limited research examines the relationship between students' experiences of body image and academic achievement outcomes. Overall, the available studies point to negative associations between body image dissatisfaction and academic grades (e.g., Mikkilä et al, 2003). Moreover, even the reviewed literature has a number of shortcomings that we aimed to address in the current study. First, nearly all research examining the effects of body image in an achievement context uses grades as the criterion variable. To remedy this we chose to focus on achievement

emotions as our outcome. Second, the notion of academic interference has never been studied as a mechanism through which body appreciation, or any type of body image for that matter, impacts outcomes. To address this, we tested a meditational model. Third, few studies include both men and women at the university level, and so this is the sample we chose to investigate.

Research questions and hypotheses. To guide the current study, we posed the following three research questions:

1. Do both men and women experience body dissatisfaction? How do they compare to each other?

H1: Consistent with recent research noting the occurrence of negative body image in men, we anticipated both genders to be, on average, dissatisfied with their bodies. Nonetheless, we expected women to demonstrate larger discrepancies between their reported *actual* and *ideal* body sizes.

2. Do students' reports of body appreciation and associated academic interference predict the achievement emotions they experience in the classroom?

H2: We hypothesized that negative valence achievement emotions would be negatively associated with body appreciation and positively associated with academic interference. In turn, we expected the positive valence achievement emotions to be positively associated with body appreciation and negatively associated with academic interference.

3. Does academic interference mediate the relationship between body appreciation and achievement emotions?

H3: We hypothesized that academic interference may work as a mechanism in which part of the predictive relationship between body appreciation and achievement emotions is mediated through academic interference.

Method

We used a quantitative correlational design as the methodology for the current study. This method was adequate to answer the aforementioned research questions and relied on measures with evidence of reliability and validity whenever possible.

Procedures

Participants for this study completed one online survey that we administered through Survey Monkey[®]. The lead researchers and all members of the Alberta Consortium for Motivation and Emotion posted and promoted the survey on multiple social media platforms including Facebook, Instagram, and Twitter. After the original posts, we relied on a type of snowball sampling technique (Atkinson & Flint, 2001) in which we acquired additional participants indirectly when current participants reposted or “shared” the link on their own social media pages. The survey was live from June 5th, 2018 to June 9th, 2018. Approval for the study was granted by the University of Alberta’s Research Ethics and Management Online service (Appendix B).

After clicking the posted link, participants saw an information letter outlining the study details (Appendix C). The information summarized in the letter provided a thorough description of the study, what they would be asked to do, the benefits/risks involved, as well as what happens with the data. Participants who chose to partake in the survey study clicked the ‘continue’ button and were brought to the first page of questionnaires related to body image. In total, there were four questionnaires related to body image and achievement emotions. The time

needed to complete the measures took an average of 5 minutes. To thank the participants for their participation, they had the opportunity of directing a \$1 donation, provided by the research team, to a charity that supports individuals with eating disorders in the local community. At the conclusion of the study, the participants received resources related to their mental health and wellbeing in case the survey content happened to cause them any distress.

Participants

Based on the procedure described above, 606 people completed the questionnaires for this study, forming a convenience sample. From the 606, we added two additional inclusion criteria that required participants to be at least 18 years of age and, given the academic nature of the research questions, students within the last two years. By adding these inclusion criteria and removing participants with incomplete data or specific response patterns indicative of invalid responses (e.g., strongly agree on all items), the final sample consisted of 295 participants. More women (83%) than men participated in the study. The majority of the sample ranged in age from 18-30 (85%; $M = 26$), were Caucasian (78%), and from Canada (76%).

Measures

As background variables, we collected participants' height and weight for BMI calculations, and demographic information for gender and age to describe the sample. For the main research questions, participants completed items measuring body appreciation, academic interference, and achievement emotions. The survey also assessed constructs not included in the current study (e.g., self-reported academic standing, reading habits, and retrospective parental support). All survey items used in the current study are included in Appendix D.

Body dissatisfaction. Negative body image was assessed using the Body Dissatisfaction Scale (BDS; Mutale, Dunn, Stiller, & Larkin, 2016), which is a pictorial figure rating measure,

the most commonly used measure of body dissatisfaction. The scale includes nine female and nine male images of computer-generated bodies that increase successively in body weight. Participants are asked to select the body that they would most like to look like (*ideal*) and the body they perceive to be the closest to their true body shape (*actual*). The discrepancy between the participant's selected *actual* and *ideal* body is the participant's body dissatisfaction score. For instance, if a participant selects their actual body to be number 5 and their ideal body to be number 2, their body dissatisfaction score would be a 3 (5-2). The larger the discrepancy between the two selected bodies, the higher one's level of body dissatisfaction. No discrepancy is defined as body satisfaction.

Body appreciation. Positive body image was assessed using the revised Body Appreciation Scale (BAS-2; Tylka & Wood-Barcalow, 2015b), which is a measure that aims to gain a general understanding of how one feels about their body. The BAS-2 consists of 10 items answered on a 5-point Likert scale ranging from "Never" to "Always". The scale examines several aspects of positive body image such as, "I feel like my body has at least some good qualities" and "I appreciate the different and unique characteristics of my body". Higher scores indicate more appreciation, acceptance, and respect for one's body and physical self. The BAS-2 has been shown to have high scale reliability, around $a = .96$ (Tylka & Wood-Barcalow, 2015b). By calculating coefficient alpha for the sample in SPSS, we determined this scale to indeed have evidence of internal reliability ($a = .91$).

Academic interference. All participants completed the Eating and Body Image Disturbances Academic Interference Scale (EBIDAIS; Yanover & Thompson, 2008a) to gauge whether a preoccupation with one's body perception, food, and exercise interferes with class attendance, attention paid in class, and homework completion. The full EBIDAIS consists of 12

items answered on a 5-point Likert scale ranging from “Never” to “Always”. However, the version of the EBIDAIS that we used for the current research project only included 8 items. Given that the survey reached a non-clinical sample, we removed four items due to their content revolved around bingeing and purging. The scale includes academic interference items such as, “How often do you have difficulty concentrating in class because you are worried about your appearance?” and “How often do you miss class because your appearance prevents you from leaving the house?”. The full EBIDAIS has been shown to have high scale reliability, around $a = .92$ (Yanover & Thompson, 2008a). Using the reduced 8-item scale on our sample, we determined it to have adequate evidence of internal reliability ($a = 0.82$).

Achievement emotions. We assessed achievement emotions using the Achievement Emotions Questionnaire (AEQ; Pekrun & Goetz, 2002), a measure of college students’ emotions. The full version of the AEQ assesses learning, test, and class-related emotions. We chose to focus on classroom emotions because they match the target of the academic interference items. Across the literature, class-related emotions have shown strong evidence of reliability (e.g., Pekrun et al., 2007). We examined five discrete class-related emotions including: hopelessness (“I feel so hopeless all my energy is depleted”; $a = .79$), anxiety (“I feel nervous in class”; $a = .81$), shame (“After I have said something in class I wish I could crawl into a hole and hide”; $a = .89$), pride (“Because I take pride in my accomplishments in this course, I am motivated to continue”; $a = .76$), and enjoyment (“I enjoy being in this class”; $a = .71$). We included three items from each of the five selected emotions, totalling 15 items, on a 5-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree”.

Rationale for Analyses

We conducted all analyses in IBM SPSS Statistics for Macintosh, Version 25. First, we calculated descriptive statistics including means, standard deviations, frequencies, skew, and kurtosis for all relevant variables. Second, we conducted an independent samples *t*-test to compare men's and women's levels of body dissatisfaction. Third, we ran correlations to look for associations between body appreciation, academic interference, and the five achievement emotions. Fourth, the main inferential research questions were answered through mediation analyses implemented with the SPSS PROCESS macro Version 3 (Hayes, 2017). We set up the regressions with body appreciation as the predictor variable, academic interference as the mediating variable, and gender, age, and BMI as covariates. We ran this analysis five times, once for each achievement emotion as the criterion variable. (See Figure 1).

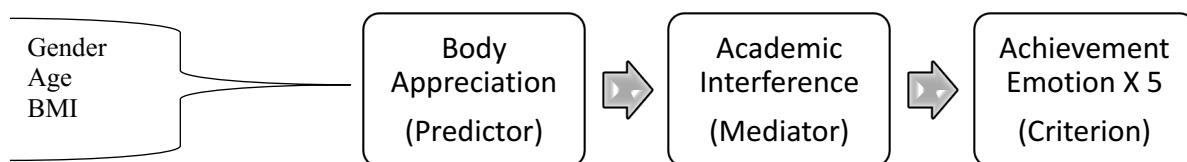


Figure 1. Mediation Analysis

We used the macro to compute the analyses in order to test the indirect effect of body appreciation on each classroom emotion, going through academic interference. Specifically, we used a percentile bootstrap estimation approach with 5000 samples and set the confidence intervals to 95%.

Results

Descriptive Statistics

All descriptive information is presented in Table 1. In regard to achievement emotions, participants most strongly reported experiencing pride ($M = 11.28$) and least strongly reported feelings of hopelessness ($M = 5.81$). According to the Health Canada guidelines (2017), the

participants' BMI was, on average, in the overweight range ($M = 25.34$). The Canadian census (Statistics Canada, 2008) outlines that the majority of the nation falls in the overweight category, which suggests that the present sample has a BMI consistent with the general population. We checked the normality of the data dispersion with skewness and kurtosis statistics. West and colleagues (1995) define a "substantial departure from normality" as a skew of > 2.1 and kurtosis of > 7.1 . With this reference, the distribution of our variables is in the normal range.

Table 1
Descriptive Statistics

Variable	N	Mean	SD	Range	α	Skew	kurtosis
BMI	277	25.34	6.36	13-57	-	2.02	6.24
Body Dissatisfaction	293	1.42	1.48	10	-	-.41	1.53
Body Appreciation	292	43.56	8.68	16-62	.91	-.40	-.052
Academic Interference	288	12.17	3.74	8-32	.82	1.81	5.22
Hopelessness	280	5.81	2.54	3-14	.79	.95	.53
Anxiety	278	7.28	3.01	3-15	.81	.52	-.47
Shame	279	8.16	3.30	3-15	.89	.32	-.84
Pride	280	11.28	2.11	5-15	.76	-.52	.35
Enjoyment	280	10.03	2.35	3-15	.71	-.15	-.11

Body Dissatisfaction: Men and Women

We conducted an independent-samples *t*-test to compare body dissatisfaction in men and women. There was a significant difference in the discrepancy scores for men ($M = .63$, $SD = 1.71$) and women ($M = 1.59$, $SD = 1.37$); $t(291) = -4.36$, $p = .000$. Although women reported larger discrepancies between their *actual* and *ideal* bodies than men, both genders portrayed

body dissatisfaction such that their idealized body was one that was thinner than their perceived current body.

Correlations

All correlations are presented in Table 2 and we elaborate on select relationships next. As expected, the predictor and mediator variables were significantly and negatively correlated with each other. This suggests that individuals with higher levels of body appreciation also experience less academic interference. Due to their moderate, as opposed to strong, correlation, it is unlikely there will be multicollinearity. Moreover, all tolerance statistics largely exceeded .20. Associations amongst the achievement emotions provided evidence of construct validity: the positive emotions were positively correlated amongst themselves, the negative emotions were positively correlated amongst themselves, and the positive and negative emotions were negatively correlated.

Significant correlations emerged between the participants' body appreciation and achievement emotions. The negative valence emotions (hopelessness, anxiety, and shame) were significantly and negatively correlated with body appreciation; whereas, the positive valence emotions (pride and enjoyment) were significantly and positively correlated with body appreciation. Opposite direction and similar magnitude of correlations were found amongst academic interference and each achievement emotion.

Table 2
Correlations Matrix of Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Gender	-										
2. Age	-.01	-									
3. BMI	.01	.19**	-								
4. Body Appreciation	.05	-.14*	-.23**	-							
5. Academic Interference	.04	-.080	-.00	-.40**	-						
6. Hopelessness	.03	-.03	.14*	-.46**	.47**	-					
7. Anxiety	.09	-.02	.16**	-.41**	.44**	.70**	-				
8. Shame	.10	-.01	.06	-.39**	.36**	.60**	.71**	-			
9. Pride	-.05	-.06	-.030	.41**	-.38**	-.55**	-.50**	-.50**	-		
10. Enjoyment	-.08	.16**	.039	.25**	-.19**	-.38**	-.39**	-.44**	.63**	-	
11. Body Dissatisfaction	.25**	.23**	.49**	-.51**	.23**	.25**	.26**	.22**	-.26**	-.14*	-

Notes. Gender 1 = men; 2 = women; * $p < .05$, ** $p < .01$

Regression and Mediation Analyses

Five separate regression analyses were used to investigate the hypothesized mediational relationship between body appreciation, academic interference, and students' achievement emotions experienced in the classroom.

Negative emotions. A similar pattern of results emerged for all three negative emotions. In no instance did gender, age, or BMI have a significant effect on students' negative emotions. In all three instances, the negative emotions of hopelessness, anxiety, and shame were significantly and negatively predicted by body appreciation and significantly and positively predicted by academic interference. Moreover, the mediation analysis indicated that the indirect effect was significant and negative in all three instances. This translates to about 34% of the effect of body appreciation on hopelessness being mediated through academic interference, in contrast to 33% and 24% for anxiety and shame respectively. The models explained 32% [$F(5, 251) = 23.13, p = .000$], 30% [$F(5, 250) = 21.19, p = .000$], and 22% [$F(5, 250) = 13.97, p = .000$] of the variance respectively.

Table 3
Regression/Mediation Analyses Predicting Negative Classroom Emotions

Predictor Variable	Hopelessness			Anxiety			Shame		
	Coeff B	LCI	UCI	Coeff B	LCI	UCI	Coeff B	LCI	UCI
1. Gender	.16	-.53	.85	.49	-.32	1.31	.79	-.16	1.75
2. Age	-.03	-.08	.01	-.03	-.078	.028	-.017	-.08	.04
3. BMI	.04	-.53	.08	.05	-.00	.099	.01	-.05	.06
4. Body Appreciation	-.09*	-.12	-.05	-.10*	-.13	-.06	-.12*	-.16	-.07
5. Academic Interference	.23*	.16	.310	.26*	.17	.35	.20*	.09	.30
Indirect X-Y=	-.04	-.07	-.024	-.05	-.08	-.03	-.04	-.06	-.02
Unadjusted R ² =	.32			.30			.22		

* $p < .001$

Note. LCI = lower confidence; UCI = upper confidence interval

Positive emotions. Slightly different patterns of results emerged for the two positive achievement emotions, pride and enjoyment. After controlling for gender, age, and BMI, none of which were significant, classroom pride was significantly positively predicted by body appreciation and negatively predicted by academic interference. The mediation analysis indicated that the indirect effect was significant. This translates to approximately 28% of the effect of body appreciation on pride being mediated through academic interference. In total, the model explained 22% of the variance, $F(5, 251) = 14.49, p = .000$. Classroom enjoyment was significantly and positively predicted by both body appreciation and age. Unlike the other achievement emotions, academic interference was not a significant predictor of enjoyment experienced in class. In total, the model explained 11% of the variance, $F(5, 251) = 6.32, p = .000$.

Table 4
Regression/Mediation Analyses Predicting Positive Classroom Emotions

Predictor Variable	Pride			Enjoyment		
	Coeff B	LCI	UCI	Coeff B	LCI	UCI
1. Gender	-.25	-.86	.37	-.45	-1.17	.27
2. Age	-.01	-.05	.03	.07*	.02	.11
3. BMI	.01	-.02	.05	.02	-.03	.06
4. Body Appreciation	.07*	.04	.10	.06*	.03	.10
5. Academic Interference	-.15*	-.22	-.08	-.06	-.14	.02
Indirect X-Y=	.03	.01	.05	.01	-.00	.03
Unadjusted R ² =	.22			.11		

* $p < .001$

Note. LCI = lower confidence; UCI = upper confidence interval

Discussion

The purpose of the present investigation was to examine the impact of students' body appreciation and academic interference on their discrete achievement emotions. In this section, we address three main findings, theoretical and practical implications, as well as the study's limitations and directions for future research. First, we discuss the results for overall body dissatisfaction focusing on men and women. Second, we describe relationships amongst body appreciation, academic interference, and the specific achievement emotions. Third, we describe the way academic interference partially mediated the association between body appreciation and four of the five measured emotions.

Body Dissatisfaction

In line with our first hypothesis, we found that both men and women were dissatisfied with their bodies. Despite the typical masculine body ideal being one that is muscular and broad in stature (Daniel & Bridges, 2010), university men in our sample reported an ideal body that was over half of a body size smaller than their actual body. This result further highlights that body image concerns are in no way specific to women. Moreover, it suggests that like women, men are also buying into weight stigma messaging and thin idealization propagated through Western society. Contrary to some research indicating that body dissatisfaction in men stems from a perceived lack of muscle instead of perceived excess weight (e.g., Cafri & Thompson, 2004), these findings are in line with other studies that demonstrate body dissatisfaction in men being primarily affected by weight satisfaction (e.g., Brennan, Lalonde, & Bain, 2010). Although they have significantly lower body dissatisfaction levels than women, men's body image concerns cannot be ignored given the distressing implications (Olivardia et al., 2004). Students'

body dissatisfaction was moderately negatively correlated to their levels of body appreciation, suggesting that low body appreciation is related to high body dissatisfaction.

Appreciation, Interference, and Emotions

Students' body appreciation was negatively correlated with their reports of academic interference, such that lower levels of feelings of respect and acceptance for their body was linked to greater body-related interference in academic functioning. This supports our premise that body appreciation can buffer academic interference whereas a lack of it can contribute to its occurrence. Body appreciation was negatively associated with the negative valence emotions, hopelessness, anxiety, and shame, whereas it was positively associated with the positive valence emotions, pride and enjoyment, at the zero-order level. These relationships persisted in the regression analyses even when controlling for students' gender, age, and BMI. In other words, university students who reported more appreciation for their physical bodies felt fewer negative emotions and more positive emotions in relation to their classes at university regardless of their actual size. These findings are in line with previous body-related emotion-focused research that outlines how individuals' body perceptions are related to self-conscious emotions such as, anxiety, shame, guilt, and pride (Sabiston et al., 2010), although our results move these associations into an academic setting specifically. Furthermore, our results provide support for an additional achievement outcome that is influenced by students' body image other than their grades. In short, it seems that body appreciation can serve as a protective factor because it is positively associated with pleasant emotions and negatively associated with adverse ones.

Students' reported academic interference was positively correlated with the three negative valence classroom emotions and negatively correlated with the two positive emotions at the zero-order level. These results also persisted in all but one case in the regression analyses

after controlling for gender, age, and BMI. Classroom enjoyment was the only emotion not significantly associated with academic interference. All associations between predictor and criterion variables met requirements for a mediation analysis with academic interference serving as the mediating variable between students' body appreciation and feelings of hopelessness, anxiety, shame, and pride in relation to their university classes.

Mediation Results

Consistent with our third hypothesis, students' academic interference, the extent to which they have difficulty concentrating, attending class, and completing homework due to a preoccupation with their physical appearance, partially mediated the association between their body appreciation and measured discrete achievement emotions. Between 24% and 34% of the effect of body appreciation on these emotions was working through academic interference. This provides support for the notion of academic interference serving as a type of control appraisal for prospective and retrospective achievement emotions. This finding propels the research in this area forward by suggesting that students' reported body image itself may be of less importance than originally thought in terms of achievement outcomes (e.g., Tallat et al., 2017). Instead, academic interference resulting from their body image explains up to a third of the relationship between appreciation and achievement emotions. A meta-analytic review of stand-alone interventions for improving body image resulted in only trivial effects on individuals' internalization of the ideal body (Alleva, Sheeran, Webb, Martijn, & Miles, 2015). Moreover, the researchers noted that the effects seen largely reduced over time. Thus, an awareness of academic interference is crucial because it points to an alternative area of intervention in the school setting – one which may be less resistant to change than students' body perceptions.

Implications

From a theoretical perspective, this study supports the use of Pekrun's Control-Value Theory of Achievement Emotions in examining the relationship between body appreciation and prospective and retrospective classroom emotions. This is the first study that has used the notion of body-preoccupied academic interference as an appraisal of control. While control appraisals have been operationalized in other research as autonomy-support or mastery goals (Daniels et al., 2009; Tze, Daniels, & Klassen, 2015), this is the first study to stretch the notion of a control appraisal away from the classroom itself to a construct the individual brings with them into the classroom. We challenge the theory to examine and expand its scope to consider other factors that may be related to the control and value appraisals that give rise to achievement emotions.

Due to our findings underscoring students' body appreciation as a protective factor against academic interference and negative achievement emotions, educators need to be made aware of the positive impact it can bring about in educational settings, such as in the classroom. For this reason, body appreciation should be fostered in students by teachers modeling personal body acceptance and speaking to a balanced diet and engagement of physical activity for purposes of health promotion, rather than weight manipulation. Creating a body positive classroom atmosphere as such may help to create a safe space (Shindler, 2003) for all students to feel accepted and comfortable in their own skin during class time. Although body positive initiatives are important in all academic stages and our data focused on adults, we would particularly encourage teachers to begin promoting body appreciation around school entry age (Tremblay, Lovsin, Zecevic, & Larivière, 2011) before society's thin ideal becomes internalized. This early intervention may circumvent some of the results we found with college students. Moreover, Andrew and colleagues (2014) suggested that increasing individuals' body

appreciation may be an easier endeavor than attempting to decrease levels of body dissatisfaction.

If, as our current results suggest however, that currently at the college level, negative body image remains the norm, rather than trying to build body appreciation, post-secondary educators should consider ways to mitigate the impact of negative body image in their classrooms (Tallat et al., 2017). As previously mentioned, students ingrained body perceptions are more difficult to change and thus academic interference may be a more malleable target than body-related issues themselves. The results of this research suggest that academic interference decreases students' appraisals of control for academic emotions. This highlights a need for teachers to be more sensitive to the possibility of their students experiencing heavy cognitive loads, such as body preoccupation, and points to structuring their classroom and activities in ways that promote optimal student control as a method of decreasing their experiences of negative achievement emotions. Classroom structures that are competitive and based on social-comparison reduce students' perceived control for success and prompts negative emotions like hopelessness and anxiety (Eliot & Pekrun, 2007). Correspondingly, activities that emphasize students' appearance or give way to body comparison should be reduced. For instance, an option may be for students to have the choice to do their oral presentations at their desk, in front of the teacher before class, or on a pre-recorded audio tape, rather than standing in front of the classroom where the body is on display and especially salient for those with body preoccupations. Perhaps interfering behaviours, like school absenteeism, would be reduced if class were to be restructured in ways that minimize students' body preoccupied cognitive load and give them back some control when appraising prospective achievement outcomes. Attributional retraining (AR; Perry, Hall, & Ruthig, 2005), may be helpful for tackling the

academic interference appraisals of retrospective achievement outcomes. It could help students with body image disturbance who adopt a general negative attribution pattern, consisting of high self-blame and self-criticism, to make more adaptive attributions for poor performance, such as a lack of effort rather than a lack of ability, and subsequently experience less shame. To date there is no research on any of these potential modifications in terms of body image and interference, but it could be an exciting avenue for future research.

Limitations and Directions for Future Research

The results of the current study should be interpreted in light of the following four limitations. First, participants in this study represent a convenience sample of university students accessed through friends of friends on social media and are largely Caucasian and Canadian. As such, the results of this study cannot necessarily be generalized to other ethnicities and geographic locations. Although this sample composition is similar to most previous body image research, future studies should examine possible differences in these associations across ethnic groups and countries, especially those in which the types of bodies idealized may differ from the thin ideal and where high academic achievement may be greater emphasized. Additionally, while it was advantageous to target both men and women students, we treated gender as binary. Although one of the most often-used measures, the Body Dissatisfaction Scale is not in line with contemporary perspectives of gender construction as non-binary and fluid (Tate, 2014). Similarly, the body experiences of individuals who identify as members of the LGBTIQ+ community may differ from those outlined in heteronormative research (Laska et al., 2015). New measures are needed to ensure inclusivity and representation of all individuals.

Second, this research did not obtain a measure of students' academic performance, in terms of their grades and used a correlational design. As such, we can neither compare our

results to previous studies that have shown the negative correlation between body image and grades (e.g., Florin et al., 2011) nor make longitudinal claims. The finding of body appreciation as a protective factor against both academic interference and negative achievement emotions is important and therefore, future research should also look at this factor in buffering poor grades over time.

Third, conceptualizing and measuring body image varies widely. Only having used one measure of body image and it being positive, has limitations in making claims that low positive body image equates to body dissatisfaction, due to some researchers describing that they may not be two ends of a single continuum (Tylka, 2012). Nonetheless, incorporating body appreciation, as opposed to body dissatisfaction, was a new avenue in the body image and academic achievement literature, in addition to being a large improvement over solely focusing on BMI, which was in fact not related to any of the measured emotions in our study once accounting for students' attitudes about their bodies. This further demonstrates that the attitudinal aspect of body image is a more important determinant of academic outcomes than true weight measures (e.g., Duncan et al., 2017). Further research should examine how the two constructs of body image, both negative and positive, relate to each other and work together in terms of their impacts in the school context.

Fourth, eligibility for the study included participants who were current students as well as those who had been students within the last two years. It may have been more difficult to respond to academic interference and achievement emotion items for participants who had been out of school longer than those still in the classroom. In similar regard, it is likely that these participants also responded to questions about their body appreciation with their current attitudes in mind, although it is possible that these may have differed when they were still enrolled in

school. Nonetheless, this may not be such a concern given that researchers have found body image to be relatively stable over time (Tiggemann, 2004). In future studies, researchers may want to consider conducting similar research while students are in their actual classes. However, caution will be needed in this sort of work to minimize the impact of having students think explicitly about their bodies in this context where academic interference is a risk.

Conclusion

This research offers a new perspective on the effects of students' body image on academic achievement. Although grades are one important measure of academic success, they are only one part of students' academic achievement (Goegan et al., 2019). The emotions students experience related to school outcomes and activities are not only associated with their subsequent grades (Pekrun et al., 2017), but also with their cognitive resources, motivation, problem solving strategies, and self-regulation abilities (e.g., Pekrun et al., 2002), which arguably are collectively more important than a singular grade. Thus, the role that classroom emotions play in overall academic functioning is pervasive and makes our current findings regarding body appreciation's significant impact on these emotions noteworthy. The Control-Value Theory implies that educators can alter students' emotions by changing their appraisals. By considering the notion of body-concerned academic interference as a type of control appraisal, both researchers and teachers may be better equipped to examine and create classroom environments that are sensitive to these matters in order to promote a greater sense of student control. The narrow body ideals, for both men and women, perpetuated by the media are exceptionally apparent and according to past trends, will likely endure and continue to narrow with time. If students' negative attitudes about their bodies are difficult to directly target, it is

essential that researchers and teachers find creative ways to reduce its negative consequences in school.

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Appendix A

Body-Related Definitions

- **Body image:** the mental picture people have of their bodies encompassing attitudinal, perceptual, and behavioural components.

Perceptual: how people see their size, shape, weight, and features. This includes accuracy of body size estimation relative to actual size as well as body (dis)satisfaction (actual vs. ideal bodies).

Attitudinal: feelings, cognitions, and beliefs about the body.

Behavioural: anything that people do that relates to their appearance (e.g., taking weight loss supplements, avoiding situations where the body will be exposed).

- **Negative body image:** negative attitudes, perceptions, and behaviours regarding an individual's own body.
 - Body dissatisfaction: a perceptual component of negative body image characterized by a discrepancy between how a person perceives they look and how they want to look.
 - Body image disturbance: a behavioural component of negative body image in which the negative perceptions and attitudes about the body become a mental habit such that it affects daily functioning (e.g., socially, occupationally). It is not merely body dissatisfaction and it is much more severe. In extreme cases of body image disturbance, body dysmorphic disorder is possible.
- **Positive body image:** positive attitudes, perceptions, and behaviours regarding an individual's own body.
 - Body satisfaction: a perceptual component of positive body image characterized by zero discrepancy between our perceived actual body and ideal body.
 - Body appreciation: an attitudinal component of positive body image related to accepting the body despite incongruences with media appearance ideals, respecting it and tending to its needs/engaging in healthy behaviours, focusing on and praising the body for what it is able to do (e.g., functioning), what it represents, and its unique features rather than appearance.

Appendix B

Ethics Approval

Notification of Approval

Date: May 28, 2018
Study ID: Pro00081407
Principal Investigator: [Devon Chazan](#)
Study Supervisor: [Lia Daniels](#)
Study Title: The impact of body image and home literacy on current academic and non-academic practices and emotions
Approval Expiry Date: Monday, May 27, 2019

Approved Consent Form: Approval Date 5/28/2018 Approved Document [Information Letter](#)

Sponsor/Funding Agency: SSHRC - Social Sciences and Humanities Research Council SSHRC

Thank you for submitting the above study to the Research Ethics Board 2. Your application has been reviewed and approved on behalf of the committee.

A renewal report must be submitted next year prior to the expiry of this approval if your study still requires ethics approval. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.

Approval by the Research Ethics Board does not encompass authorization to access the staff, students, facilities or resources of local institutions for the purposes of the research.

Sincerely,

Stanley Varnhagen, PhD
Chair, Research Ethics Board 2

Note: This correspondence includes an electronic signature (validation and approval via an online system).

Appendix C

Information Letter



Study Title: The Impact of Body Image and Home Literacy on Current Academic and Non-Academic Practices and Emotions

Principal Investigator: Dr. Lia Daniels, lia1@ualberta.ca, 780-492-4761

Research Coordinators: Devon Chazan, chazan@ualberta.ca; Julia Farmer, jfarmer@ualberta.ca

Introduction: The current research is designed to help two Masters' students in the Alberta Consortium for Motivation and Emotion research group collect their thesis data. The purpose of this study is to collect quantitative data related to two different research aims. The first research aim revolves around the feelings and perceptions one holds about their body as well as its relation to various achievement outcomes. The second research aim focuses on past and present pleasure reading habits.

What will you be asked to do: Participation is completely voluntary. To participate in this study, you need to complete this online survey. It should take no more than 10 minutes of your time. Your consent is implied by completing the survey. Once you complete the survey your information cannot be removed, as the survey does not include any identifying information. However, participation can be withdrawn at any time during the survey until the survey is virtually submitted. To thank you for your participation in our research, at the completion of the survey, we will donate \$1 to your choice of a charity; either one related to promoting reading abilities or to Edmonton's chapter of the Eating Disorder Support Network of Alberta.

What are the benefits/risks: Potential benefits include participants' opportunity to reflect upon their own practices and emotions, however, while participants will have the opportunity to advance the general state of knowledge about our research topics through the long-term impacts of the study, there are no explicit or personal benefits to participating in this research. There are no known risks associated with participation in the study.

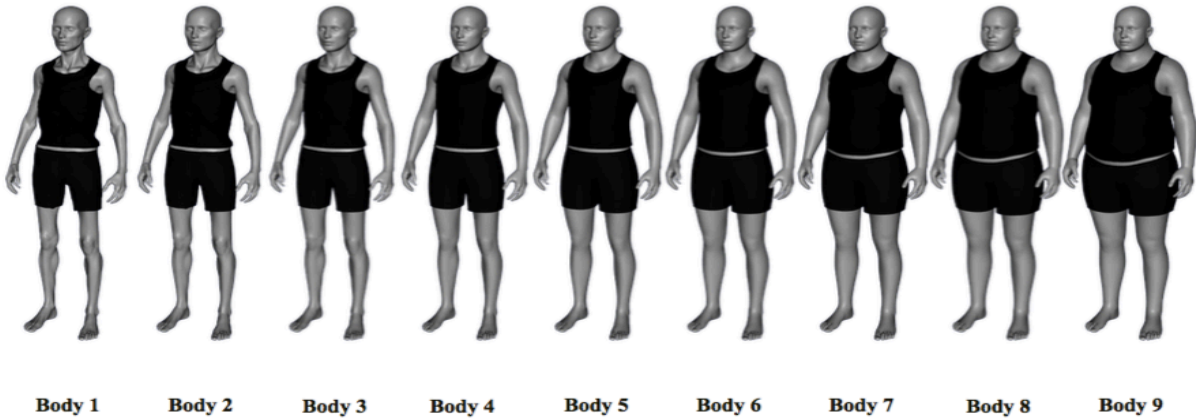
What happens with the data: The data will be entered into a computer software, which will have no identifying information from participants, and be stored on password protected computers. Only the principle investigator and her research team will have access to the data. All research assistants have signed confidentiality forms. The results for the study will be disseminated by means of conference presentations, publications in academic journals and included in students' thesis/dissertation projects.

Appendix D

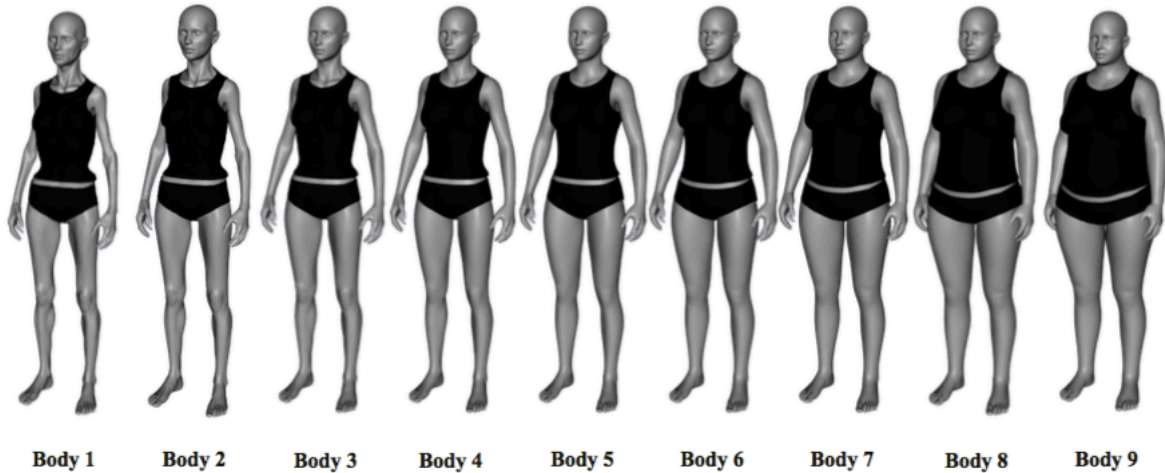
Study Questionnaire Items

Body Dissatisfaction Items:

Male



Female



What body number is closest to your actual body shape?
 What body number would you most like to look like?

Body Appreciation Items:

<i>Never (1), Seldom (2), Sometimes (3), Often (4), Always (5)</i>
I respect my body
I feel good about my body
I feel that my body has at least some good qualities

I take a positive attitude towards my body
I am attentive to my body's needs
I feel love for my body
I appreciate the different and unique characteristics of my body
My behaviour reveals my positive attitude toward my body; for example, I hold my head high and smile
I am comfortable in my body
I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors)

Academic Interference Items:

<i>Never (1), Sometimes (2), Often (3), Almost Always (4), Always (5)</i>
How often do you have difficulty concentrating in class because you are worried about your appearance?
How often do you have difficulty concentrating in class because you are thinking about exercise?
How often do you have difficulty concentrating in class because you are worrying about food or eating?
How often do you miss class because your appearance prevents you from leaving the house?
How often do you miss class because you have to exercise instead?
How often do you spend less time than you should on your schoolwork because you are exercising?
How often do you spend less time than you should on your schoolwork because you cannot concentrate because you are thinking about food or eating?
How often do you spend less time than you should on your schoolwork because you cannot concentrate because you are worrying about your appearance?

Achievement Emotions Items:

<i>Strongly Disagree (1), Disagree (2), Neutral (3), Agree(4), Strongly Agree (5)</i>
I have lost all hope in understanding this class
I get tense in class
After I have said something in class I wish I could crawl into a hole and hide
I am proud of myself
I enjoy being in class
I feel so hopeless all my energy is depleted

I feel nervous in class
I get embarrassed
I think that I can be proud of what I know about this subject
I enjoy participating so much that I get energized
I feel hopeless
Because I'm so nervous I would rather skip the class
Because I take pride in my accomplishments in this course, I am motivated to continue
When I say anything in class I feel like I am making a fool of myself
I am motivated to go to this class because it's exciting