A Positive Psychology Approach to Eating and Body Image: Investigating the Healthy Eater Self-Schema and Body Appreciation in Adolescence

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Abstract

The healthy eater self-schema (HESS) and body appreciation (BA) are associated with healthy behaviours. However, there is a paucity of research investigating these variables among adolescents. Using an adolescent sample, this study’s goals were to investigate the association between HESS and BA, and to explore the impact of gender, race/ethnicity, and family. A total of 224 adolescents (15-18 years; 64.3% female), 100 mothers, and 59 fathers completed self-report questionnaires. HESS was positively associated with adolescent BA, parental HESS, and parental BA. Among Asians, HESS was positively associated with family dinners. BA was positively associated with family dinners, family mealtime rules, parental HESS, and parental BA. Relative to males, females reported greater importance of healthy eating to self-image and lower BA. There were no racial/ethnic differences for the means of HESS and BA. Future research should examine whether HESS and BA are protective against negative behaviours among adolescents.

Keywords: Healthy eater self-schema; body appreciation; healthy eating; body image; adolescents; positive psychology
This thesis is dedicated with love to Mom, Dad, and Dave.

My love for you knows no bounds,
even if we are 4,342 kilometers apart.

Home is where the heart is.
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“There’s no place like home.” – Dorothy (L. Frank Baum, 1900)
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List of Acronyms

BAS Body Appreciation Scale
BMI Body Mass Index
HESS Healthy Eater Self-Schema Scale

Glossary

Body Appreciation
Appreciating the features of one’s body, the health of one’s body, and the body’s functionality (i.e., what it is able to do) more than its appearance (Tylka, 2011).

Healthy Eater Self-Schema
Internalization and incorporation of healthy eating into one’s identity and self-image (Kendzierski & Costello, 2004).

Healthy Eater Self-Schema: Importance Subscale
Perceived importance of healthy eating to one’s self-image (Kendzierski & Costello, 2004).

Healthy Eater Self-Schema: Self-Description Subscale
Self-description as a healthy eater (Kendzierski & Costello, 2004).
1. Introduction

Among youth, disordered eating and eating disorders share common negative consequences, such as lower self-esteem (Muazzam & Khalid, 2011), increased anxiety and depression (DeBoer & Smits, 2013; Ferreiro, Seoane, & Senra, 2011), and compulsive exercise (Holland, Brown, & Keel, 2014). To date, there has been limited success with prevention efforts among youth (Stice, Becker, & Yokum, 2013) and reasonable success treating youth (e.g., family-based therapy; Couturier, Kimber, & Szatmari, 2013). However, by the time disordered eating reaches threshold symptomology for eating disorders, a number of negative consequences are already present, such as depression, anxiety, and drug use (e.g., Aime, Craig, Pepler, Jiang, & Connolly, 2008). Therefore, research needs to focus on improving prevention efforts and identifying traits that increase resilience against both disordered eating and eating disorders.

As a result, there is an increasing movement towards positive psychology and pinpointing protective factors for disordered eating and eating disorders. The modern positive psychology movement, pioneered by Seligman and Csikszentmihalyi (2000), focuses on the study of factors that allow individuals to grow and flourish (i.e., protective factors), instead of factors that put individuals at risk for negative outcomes. Prevention is the focus of positive psychology research, as personal strengths that are protective against mental illness are identified (Seligman & Csikszentmihalyi, 2000). Two variables that may be important factors to consider for protecting against disordered eating are the healthy eater self-schema and body appreciation.

1.1. The Healthy Eater Self-Schema

Some individuals engage in internalization of sociocultural ideals including the thin ideal, which may lead to disordered eating (Heinberg, Thompson, & Stormer, 1995).
However, there has been a dearth of research on whether healthy eating is internalized and incorporated into one’s identity, particularly among adolescents. A self-schema is a domain-specific self-definition or identity, based on former experiences, which is present in a domain that an individual considers important (Markus, 1977). Self-schemas can serve as a motivator for actual behaviours. For example, individuals who see themselves as exerciser self-schematics are more likely to commence an exercise regime (Kendzierski, 1990) and more likely to regularly exercise (Yin & Boyd, 2000).

With regards to healthy eating, the healthy eater self-schema (HESS) consists of two elements: (1) self-description as a healthy eater, and (2) perceived importance of healthy eating to one’s self-image (Kendzierski & Costello, 2004). Both facets of this self-schema must be present in an individual, in order to predict healthy eating behaviour (Kendzierski, 2007). The HESS has been found to be associated with numerous healthy eating behaviours among female young adults (e.g., consuming more fiber, fruits and vegetables, as well as less fat and junk food; Allom & Mullan, 2012; Holub, Haney, & Roelse, 2012; Kendzierski & Costello, 2004). The HESS has also been associated with other positive outcomes, such as healthy eating cognitions. For instance, healthy eater self-schematics endorse more positive and fewer negative beliefs about food, and accept more personal control over lapses in healthy eating (Holub et al., 2012). Self-describing as a healthy eater has stronger associations to these positive outcomes, compared to the second facet of the HESS – perceived importance of healthy eating to one’s self-image (Holub et al., 2012). Furthermore, the HESS was found to be associated with lower body mass indexes (BMIs) within the healthy range, an indicator of health (Holub et al., 2012). In sum, the HESS has been found to be associated with a variety of indicators of health.

To date, there has been no research on the HESS in adolescents. Research on outcomes associated with the HESS and what factors promote the HESS among adolescents is needed. Studying the HESS could aid in understanding how to prevent disordered eating, as it could uncover personality strengths that act as buffers against problematic eating habits. As a result, this study aims to identify factors associated with the HESS among adolescents. Additionally, most research on the HESS looks at it in a
dichotomous manner. This study explores the HESS as a continuous variable, which adds richness to the interpretation of this variable.

1.2. Positive Body Image and Body Appreciation

Similar to the focus on internalization of more detrimental ideals such as the thin ideal versus internalizing healthy eating, historically, research has focused on negative body image. Recently, within the field of body image research, it was determined that there was a need for a paradigm shift, in order to explore positive body image and examine how it acts as a protective factor against body image disturbances (Tylka, 2011). Body image is the mental picture of one’s body size, shape and form, and the associated feelings regarding one’s body (Slade, 1994). Positive body image is not the opposite of negative body image. It is a more complex concept than simply an absence of negative feelings towards one’s body. Positive body image consists of four main components: (1) holding positive views of one’s body irrespective of actual appearance, (2) accepting the body regardless of one’s actual physical appearance, (3) respecting and attending to the body’s needs by engaging in healthy behaviours, and (4) protecting the body by using a filter when engaging with media, by rejecting unrealistic media images (Tylka, 2011). Adult women with positive body image reported greater optimism, self-esteem, social support, adaptive coping, and weight stability – all variables that predict well-being, above and beyond negative body image (Williams & colleagues, 2004, as cited in Tylka, 2011). Additionally, young adult women with positive body image reported that the important people in their lives, including their parents, did not criticize their weight or food consumption (Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). To date, there is limited research exploring positive outcomes associated with positive body image among adolescents. However, a five-year longitudinal study found that higher body satisfaction was predictive of lower levels of dieting for both males and females, and higher fruit and vegetable intake for females (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006).

A central component of positive body image is body appreciation (Avalos, Tylka, & Wood-Barcalow, 2005). Body appreciation exists when individuals appreciate the features of their bodies, the health of their bodies, and the body’s functionality (i.e., what
it is able to do) more than its appearance (Tylka, 2011). Among adult women, body appreciation is associated with higher body esteem, fewer eating disorder symptoms, as well as lower body dissatisfaction, weight concern, body surveillance, and body shame (Tylka, 2011). Among adolescents, Frisen and Holmqvist (2010) found that individuals with high body appreciation viewed their bodies as functional objects, accepted their bodily flaws, participated and enjoyed physical activity, and ignored appearance-related comments from others. Body appreciation has also been found to be associated with a component of healthy eating: Intuitive eating (i.e., eating in response to internal hunger cues; Avalos & Tylka, 2006). Among female young adults, the more participants reported feeling that their family and friends accepted the participants' bodies, the participants' own body appreciation increased, and in turn, there was a greater endorsement in intuitive eating. The study's authors believe the rationale behind these findings mirror theories of disordered eating, where a negative body orientation accounts for the association between the drive for thinness and disordered eating. In sum, body appreciation is associated with a variety of positive outcomes.

To date, there is very limited research on outcomes associated with body appreciation and what factors promote body appreciation among adolescents, particularly among males. Studying body appreciation could aid in understanding how to prevent body dissatisfaction, as it could uncover personality strengths that act as buffers against negative body image. As a result, this study aims to identify factors associated with body appreciation among adolescents.

1.3. The Effects of Gender

Research on disordered eating and eating disorders supports investigating the impact of gender on the HESS and body appreciation. Particularly among adolescents, there is a marked gender difference in the prevalence of disordered eating and eating disorders: Females experience higher levels of both subthreshold and threshold disordered eating behaviours (Andersen, 2002; Darcy, 2012; Hill, 2002) and cognitions (e.g., body dissatisfaction; Murnen, 2011). When considering the opposite end of the spectrum – healthy eating – there is a large body of research exploring the varied gender effects on patterns of healthy eating among adolescents (e.g., Larson et al.,
2009). However, operational definitions of healthy eating and outcome variables vary dramatically from study to study. The HESS may serve as an indicator of healthy eating. One study has explored gender differences in the HESS (Holub et al., 2012). Among young adult men and women, there were no gender differences in the HESS self-description scores. However, females reported higher HESS importance scores, compared to males. The limited research on this topic necessitates further study, particularly using adolescent samples.

The overwhelming evidence that in comparison to adolescent males, adolescent females tend to view their bodies more negatively (Bucchianeri, Arikian, Hannan, Eisenberg, & Neumark-Sztainer, 2013) and report higher rates of disordered eating (Striegel-Moore & Smolak, 2002), suggests that there may be a possible gender difference in body appreciation. To date, there have been conflicting findings on gender differences in body appreciation. One study failed to find gender differences in body appreciation (Swami, Hadji-Michael, & Furnham, 2008), whereas other studies with adults (Swami, Stieger, Haubner, & Voracek, 2008) and adolescents (Lobera & Rios, 2011) have shown higher levels of body appreciation among males, relative to females. Furthermore, Swami, Stieger, and colleagues (2008) found that BMI was inversely related to body appreciation among females, but not males. These studies were conducted in Europe, and only one study consisted of an adolescent sample. Research using North American samples is lacking. Understanding the impact of gender on the HESS and body appreciation is important in order to determine if these variables serve as a protective factor for both males and females. This study aims to address these gaps in the literature.

1.4. The Effects of Race/Ethnicity

Research on disordered eating and eating disorders supports investigating the impact of race/ethnicity on the HESS and body appreciation. The overwhelming majority of research shows that body dissatisfaction and disordered eating is higher among Caucasians, compared to other racial/ethnic minority groups (Anderson-Fye & Becker, 2004). However, some samples show similar rates of disordered eating and eating disorders in racial/ethnic minorities (Anderson-Fye & Becker, 2004). There is a dearth of
research exploring body dissatisfaction and disordered eating among East and Southeast Asians, compared to other racial/ethnic minority groups (Anderson-Fye & Becker, 2004). Although, the existing research shows that Asian Americans are significantly less likely to report disordered eating attitudes and behaviours (e.g., body dissatisfaction, chronic dieting), compared to Caucasians (Lucero, Hicks, Bramlette, Brassington, & Welter, 1992; Tsai, 2000) and compared to African Americans, Latinas, and Native Americans (Crago, Shisslak, & Estes, 1996). When considering the opposite side of the spectrum – healthy eating – past literature suggests racial/ethnic differences on patterns of healthy eating among adolescents (e.g., Larson et al., 2009). Only one study has explored racial/ethnic differences in the HESS (Holub et al., 2012), and no racial/ethnic differences were found. The limited research on this topic necessitates further study.

Considering the wealth of literature indicating racial/ethnic differences in body image (Cash & Smolak, 2011) and rates of eating disorders (Striegel-Moore & Smolak, 2002), understanding the impact of race/ethnicity on body appreciation is imperative. To date, there has only been one study exploring racial/ethnic differences in body appreciation. In a sample of British female young adults, after controlling for age, Hispanic women reported the highest body appreciation, followed by African/Caribbean, Caucasian, and then South Asian women (Swami, Airs, Chouhan, Leon, & Towell, 2009). Currently, there is no research exploring racial/ethnic differences in body appreciation, using North American adolescent samples, nor with Southeast or East Asian samples. Understanding the impact of race/ethnicity on the HESS and body appreciation is necessary in order to determine if these variables are protective for various races/ethnicities. This study seeks to target these gaps in the literature.

1.5. The Effects of Family

1.5.1. Eating Disorders

Research on disordered eating and eating disorders supports investigating the influence of family on the HESS and body appreciation. The influence of family is particularly relevant for adolescents, as they are often still living at home and the family
may be a central influence on their eating patterns and body image. The role of parents have been implicated in the transmission of thoughts and behaviours associated with disordered eating and eating disorders onto their children and adolescents. When parents place increased importance on appearance, and criticize or tease their children’s weight and shape, both girls and boys are more likely to diet and have negative body image (Jones, 2011; Wertheim, Paxton, & Blaney, 2004). Additionally, parental modelling of chronic dieting and disordered eating are associated with higher levels of these behaviours in their children and adolescents (Wertheim et al., 2004). In terms of protective effects, family dinners and family mealtime rules have been found to be protective against disordered eating and extreme weight control behaviours (e.g., Neumark-Sztainer & Haines, 2004). Although past research supports the influence of family on adolescents’ eating behaviours and body image, parental effects appear to differ based on the gender of parents. Maternal comments about a child’s body shape is significantly associated with greater body dissatisfaction and weight concerns for both girls and boys (Smolak, 2011; Smolak, Levine, & Schermer, 1999), whereas, paternal comments often yield null results (Smolak, 2011). However, some research shows that parents are most influential for their children of the same gender (e.g., Field et al., 2008; Stein, 2002). In sum, there are mixed findings on the influence of family on adolescents’ disordered eating thoughts and behaviours, especially when it comes to gender differences. In order to identify potential protective factors that may prevent disordered eating and eating disorders, it is important to explore the effects of family on the HESS and body appreciation.

1.5.2. The Healthy Eater Self-Schema

Currently, there is no research on the association between adolescent HESS and parental HESS. However, this is an essential area that needs to be explored, as past literature has shown that family variables such as family meals are associated with children’s healthy eating habits, such as higher consumption of numerous vitamins and minerals (Gillman et al., 2000), and higher intake of fruits, vegetables, and dairy products (Videon & Manning, 2003; Woodruff-Atkinson, 2007). With regards to family mealtime rules (e.g., having vegetables with a meal, eating whatever is cooked regardless of one’s preferences, not being allowed to leave the table until everyone has
finished eating; Neumark-Sztainer, Story, Ackard, Moe, & Perry, 2000), there is a lack of consensus in the association between family mealtime rules and healthy eating. For example, maternal authoritative parenting predicted lower BMI, within the healthy range, in adolescents five years later (Berge, Wall, Loth, & Neumark-Sztainer, 2010), whereas paternal permissive parenting predicted higher consumption of fruits and vegetables, but only in daughters. Both parenting styles vary in the level of rules, yet they both resulted in healthful behaviours five years later. The conflicting research on the impact of family on healthy eating necessitates further attention. The HESS may serve as an indicator of healthy eating. Therefore, exploring the impact of family on the HESS is essential, to determine if family variables (i.e., family dinners, family mealtime rules, parental HESS, and parental body appreciation) influence the protective nature of adolescent HESS. This study aims to address these outstanding questions.

1.5.3. Body Appreciation

Given the large body of research exploring the transmission of thoughts and behaviours related to body dissatisfaction (e.g., Jones, 2011) and disordered eating (e.g., Stice, 2002) from parents to their children, understanding the impact of parents on adolescent body appreciation is essential. Currently, there are no studies specifically exploring the association between adolescent body appreciation and parental body appreciation. In terms of general parental factors that may influence body appreciation, Iannantuono and Tylka (2012) found that among young adult women, increased restrictive/critical parental eating messages (e.g., “Told you that you should not eat certain foods because they will make you fat.”) predicted lower levels of intuitive eating, largely through their negative relationship with body appreciation. Similarly, among young adult men and women, an increased presence of negative parental messages (i.e., being critical of their adult children’s body size/shape and encouraging a restrictive diet) was negatively correlated with perceived familial body acceptance, body appreciation, and intuitive eating (Kroon van Diest & Tylka, 2010). For men, negative parental messages were associated with lower body appreciation, whereas for women, perceived body acceptance by one’s family fully accounted for the relationship between restrictive/critical eating messages from parents and body appreciation. This study suggests possible gender differences for body appreciation. Exploring the association
between adolescent body appreciation and parental body appreciation is important to
determine if parental body appreciation may serve as a protective factor for adolescents.
This study aims to address this question.

1.6. The Present Study

To date, the HESS and body appreciation have not been adequately researched
among adolescents, and it remains unknown if these variables are associated with each
other. Additionally, research is lacking on how gender and race/ethnicity impacts these
two variables. Furthermore, it is unknown if these variables are associated with family
factors such as family dinners (an aspect of healthy eating), family mealtime rules (a
component of family dinners), parental HESS, and parental body appreciation. It is
important to explore family factors in order to determine whether the family environment
is associated with positive outcomes that increase resilience against disordered eating
and eating disorders.

There are three central purposes of this current study. First, this study will
investigate the associations between the HESS and body appreciation in an adolescent
sample. Second, the study will explore gender and racial/ethnic differences for the HESS
and body appreciation among adolescents. Third, the study will explore family factors
that are associated with the HESS and body appreciation (i.e., frequency of family
dinners, family mealtime rules, parental HESS, and parental body appreciation), and
whether these associations differ by gender and race/ethnicity.

1.6.1. Hypothesis A: Investigating the Associations between Study
Variables

1. It is hypothesized that an increased self-description as a healthy eater
among adolescents would be positively associated with (a) perceived
importance of healthy eating to one’s self-image and (b) body
appreciation among adolescents.

2. It is hypothesized that an increased perceived importance of healthy
eating to one’s self-image among adolescents would be associated
with increased body appreciation among adolescents.
1.6.2. **Hypothesis B: Investigating the Impact of Gender on Study Variables**

1. Based on past research (Holub et al., 2012), it is predicted that there will be no gender differences on the means of healthy eater self-description scores.

2. Based on past research (Holub et al., 2012), it is hypothesized that females will report significantly higher mean perceived importance scores, compared to males.

3. Based on past research (Lobera & Rios, 2011), it is predicted that females will report lower mean body appreciation scores, compared to males.

4. Due to limited past research, no specific hypotheses were made for the impact of gender on the pattern of correlations among study variables. Thus, gender differences on the pattern of correlations were investigated in an exploratory manner.

1.6.3. **Hypothesis C: Exploring the Impact of Race/Ethnicity on Study Variables**

Due to the paucity of past research on racial/ethnic differences among the study variables, no specific hypotheses were made for the impact of race/ethnicity on the means (Hypothesis C.1) and patterns of correlations (Hypothesis C.2) among study variables. Therefore, all racial/ethnic differences were investigated in an exploratory manner.

1.6.4. **Hypothesis D: Exploring the Influence of Family on Study Variables**

It is hypothesized that among adolescents, increased self-description as a healthy eater (Hypothesis D.1), perceived importance of healthy eating to one’s self-image (Hypothesis D.2), and body appreciation (Hypothesis D.3) would be positively associated with the following family variables: (a) frequency of family dinners, (b) family mealtime rules, (c) self-description as a healthy eater among mothers and fathers, (d) perceived importance of healthy eating to one’s self image among mothers and fathers, and (e) body appreciation among mothers and fathers.
Due to limited past research, no specific hypotheses were made for the impact of gender and race/ethnicity on the pattern of correlations among study variables and family variables (Hypothesis D.4). Thus, gender and racial/ethnic differences on the pattern of correlations were investigated in an exploratory manner.
2. Methods

2.1. Participants

A total of 224 adolescents (144 females, 80 males; 64.3% female) were recruited from Advanced Placement (AP) grade 11 and 12 psychology classes, from high schools in Burnaby and Coquitlam, British Columbia, Canada. Participants’ age ranged from 15 to 18 years ($M = 16.79$; $SD = .85$), and BMI ranged from 14.45 to 36.63 ($M = 21.49$; $SD = 3.53$). Participants were from racially/ethnically diverse backgrounds: 50.4% Asian ($n = 113$), 28.1% Caucasian ($n = 63$), 9.8% mixed ($n = 22$), 6.3% South Asian ($n = 14$), 2.7% Middle Eastern ($n = 6$), 1% African American ($n = 2$), 1% Hispanic/Latino ($n = 2$), and 1% other ($n = 1$).

A total of 114 mothers participated, but 14 (12%) were excluded from the sample because their children did not participate. Of the final 100 mothers, ages ranged from 28 to 63 years ($M = 47.48$; $SD = 5.31$), and BMI ranged from 15.31 to 40.89 ($M = 23.98$; $SD = 4.31$). The mothers were from racially/ethnically diverse backgrounds: 43.4% Caucasian ($n = 43$), 39.4% Asian ($n = 39$), 10.1% South Asian ($n = 10$), 3.0% Middle Eastern ($n = 3$), 2.0% other ($n = 2$), 1.0% African American ($n = 1$), and 1.0% mixed ($n = 1$).

A total of 68 fathers participated, but 8 (12%) were excluded from the sample because their children did not participate. Moreover, one father was excluded from the sample due to an age over 5 standard deviations above the mean. Of the final 59 fathers, ages ranged from 31 to 68 years ($M = 49.07$; $SD = 6.28$), and BMI ranged from 18.79 to 37.11 ($M = 25.87$; $SD = 3.89$). The fathers were from racially/ethnically diverse backgrounds: 39.0% Asian ($n = 23$), 37.3% Caucasian ($n = 22$), 8.5% Middle Eastern ($n = 5$), 6.8% South Asian ($n = 4$), 3.4% Hispanic/Latino ($n = 2$), 3.4% other ($n = 2$), and 1.7% African American ($n = 1$).
2.2. **Materials**

Portable digital scales were used for this study to obtain objective measurements of each adolescent participant’s weight (in pounds). Tape measures were used to obtain objective measurements of height (in feet and inches).

2.3. **Measures**

2.3.1. **Demographics Questionnaire**

Adolescents completed a demographics questionnaire (Appendix B), asking for gender, year and month of birth, age, ideal weight, and race/ethnicity (options were: Caucasian, African American, Asian, Hispanic/Latino, Aboriginal, Caribbean, Middle Eastern, South Asian, Mixed, and other). Parents completed a similar demographics questionnaire asking for the aforementioned details, as well as additional questions inquiring about: highest level of formal education, yearly family gross income, current occupation, marital status, and self-reported current height and weight.

2.3.2. **The Healthy Eater Self-Schema Scale**

Participants’ HESS was assessed by administrating the Healthy Eater Self-Schema Scale (Kendzierski & Costello, 2004; Appendix B). The HESS consists of 6 items, each rated on an 11-point scale. There are two subscales: (1) self-description as a healthy eater (e.g., “To what extent, does the term ‘someone who eats in a nutritious manner’ describe you?”), where 1 equals *definitely doesn’t describe me* and 11 equals *definitely describes me*; and (2) perceived importance of healthy eating to one’s self-image (e.g., “How important is being someone who is a healthy eater to the image you have of yourself, regardless of whether or not you are someone who is a healthy eater?”), where 1 equals *not at all important* and 11 equals *very important.* Subscale scores are calculated by obtaining the mean of the responses on the subscale items. The theoretical range for each subscale score is 1 to 11. The internal consistency of responses to the entire instrument is $\alpha = .90$ (Noureddine & Stein, 2009), and responses to the two subscales have internal consistencies of $\alpha = .90$ and .93, respectively (Holub
et al., 2012). This measure has good content and discriminant validity (Noureddine & Stein, 2009), as well as good concurrent validity (Kendzierski & Costello, 2004). No test-retest reliability has been reported for this measure. For adolescents, Cronbach’s alpha for the current sample was .85 for self-description, .94 for perceived importance, and .85 for the entire scale. For mothers, Cronbach’s alpha was .92 for self-description, .97 for perceived importance, and .87 for the entire scale. For fathers, Cronbach’s alpha was .95 for self-description, .98 for perceived importance, and .93 for the entire scale.

2.3.3. Body Appreciation Scale

Participants’ body appreciation was measured by scores on the Body Appreciation Scale (BAS; Avalos et al., 2005; Appendix B). The BAS is a 13-item measure assessing aspects of body appreciation (e.g., “Despite its flaws, I accept my body for what it is”), each rated on a 5-point scale ranging from 1 (never) to 5 (always). Scores were calculated by obtaining the mean of all items; higher scores reflect greater body appreciation. The theoretical range for this measure’s scores is 1 to 5. Responses to the BAS have excellent internal consistency (α = .94; Avalos et al., 2005; Avalos & Tylka, 2006), and α = .83 specifically for a sample of males (Swami, Hadji-Michael, et al., 2008). The BAS’s three-week test-retest reliability is r = .90 (Avalos et al., 2005). The BAS also has strong convergent validity. Higher scores of body appreciation are positively associated with positive body esteem and lower body surveillance (Avalos et al., 2005). Moreover, scores on the BAS was negatively associated with eating disorder symptomatology and body dissatisfaction. A strength of the BAS is it has demonstrated measurement equivalence/invariance among females and males, as measured using a university sample (Tylka, 2013). That is, the BAS measures the same construct and therefore can be interpreted as a similar concept in both genders. In the current sample, Cronbach’s alpha for the entire scale was .92 for adolescents, .88 for mothers, and .88 for fathers.
2.3.4. Project Eating Among Teens-II Survey for High School Students

The frequency of family dinners and the presence of family mealtime rules were assessed by the Project Eating Among Teens-II Survey for High School Students (Project EAT-II; Neumark-Sztainer et al., 2006; Appendix B). The Project EAT-II survey measures eating habits, dieting behaviours, and physical activity by adolescents. For this study, the frequency of family dinners was measured by one item: “How many times in a typical week did all, or most, of your family living in your house eat dinner together?” This question was fill-in-the-blank, with possible answers ranging from 0 to 7. Higher scores reflect a greater frequency of family dinners. Presence of family mealtime rules was measured by the sum of two questions: “In my family, there are rules at mealtimes that we are expected to follow” and “Manners are important at our dinner table”. These two items were rated on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree). The theoretical range for the sum of these two items is 2 to 8. Higher scores reflect an increased presence of family mealtime rules. These items were extracted from larger scales that measured frequency of family meals and presence of family mealtime rules. Family dinners was selected because it is a more precise measure of presence of family members at mealtimes, as adolescents often skip breakfasts and eat lunches with peers at school (Videon & Manning, 2003). The two mealtime rule items were selected over the larger measure of family mealtime rules as those two mealtime rule items have the highest construct validity (Neumark-Sztainer et al., 2006). Overall, the internal consistencies of responses specific to the frequency of family meals and presence of family mealtime rules has been reported as $\alpha = .82$ and $\alpha = .60$, respectively (Neumark-Sztainer et al., 2004). The mean test-retest reliability for frequency items is $r = .70$, and ranges from .54 to .70 for the various rules items (Neumark-Sztainer et al., 2004). No time interval for test-rest reliability was specified, nor was validity of this scale. For this current sample of adolescents, Cronbach’s alpha was .72 for presence of family mealtime rules, and the correlation between the two family mealtime rules items was $r = .56 (p < .001)$. 
2.4. Procedure

This study received ethics approval from the Simon Fraser University Research Ethics Board, the Burnaby School District #41, and the Coquitlam School District #43. All participants were treated in accordance with ethical standards.

2.4.1. Parents

Adolescents brought home information packages for their families. Each family received a letter of introduction (Appendix C). Mothers and fathers interested in participating provided written consent (Appendix D). Then, they completed a short questionnaire package, which contained the aforementioned self-report measures (Appendix B). Completing the questionnaire package was estimated to take approximately 20 minutes. There was no financial compensation. Mothers and fathers also signed a separate parental/guardian consent form, if they allowed their adolescent to participate in the study (Appendix E), which allowed researchers to approach the adolescent to ask for their participation. On the day that the adolescents participated, they returned the parents’ questionnaire packages. Each adolescent was assigned a family identification number by their teachers, which was used to keep adolescent and parent questionnaires from each family together.

2.4.2. Adolescents

Adolescents who received parental/guardian consent and were interested in participating signed a child assent form (Appendix F). For students who chose to refrain from participating, an alternate activity was made available for them by their teacher. First, all participants completed the aforementioned self-report measures (Appendix B). Completing the questionnaire package took approximately 20 minutes. Next, participants were taken individually to a separate room to be privately weighed and have their heights measured by a research assistant. The length of time involved in weighing and measuring heights of participants depended on the number of participants during each session. There was no financial remuneration.
3. Planned Data Analyses

3.1. A Priori Power Analysis

For correlational analyses, an a priori power analysis using Cohen’s (1988) conventions of .1, .3, and .5 for small, medium, and large effect sizes ($r$) respectively was conducted. In order to sufficiently control for type II error with an alpha level (i.e., type I error) set at .05, and with a desired statistical power level of .8, the minimum sample size should be: 783 to detect a small effect, 85 to detect a medium effect, and 28 to detect a large effect. This power analysis was calculated using Power Analysis and Sample Size (PASS) 12 software.

3.2. Covariate Analysis

In order to assess and adjust for the potential impact of BMI on the relationship between the study variables, BMI was calculated using measured weight and height, using the following formula: weight (in pounds) divided by height (in inches) squared, multiplied by 703. Among all study variables, BMI was only significantly correlated with body appreciation. When examining BMI across all participants, BMI was negatively associated with body appreciation. Moreover, there was also a negative relationship between BMI and body appreciation for both females and males, as well as Asians and Caucasian males. Therefore, BMI was included as a covariate in analyses where BAS scores were a variable.

3.3. Outliers

Variables were examined for potential outliers using scatterplots and stem-and-leaf plots. When exploring BMI for potential outliers, it was determined that 19
adolescents (8 Caucasian, 8 Asian, and 3 South Asian) and 1 mother (of Asian descent) had BMIs equal to or below 17.5, which is the diagnostic cut-off for anorexia nervosa as per International Classification of Diseases guidelines (ICD-10, as cited in McIntosh et al., 2004). These participants were still included in the data analyses because their BMIs were within two standard deviations of the mean BMI, and indicators of healthy body image (e.g., BAS and HESS scores) were all within 1 standard deviation of the mean.

3.4. Descriptive Data Analyses and Correlational Analyses

A descriptive statistical analysis was conducted to determine the mean, standard deviation, and minimum and maximum values for each of the study variables. Independent samples t-tests were conducted to determine if there were any significant differences on study variables between groups of interest. For all significant differences, effect sizes were calculated.

In order to test the associations between the study variables, Pearson Product Moment bivariate correlations were calculated for all variables. In order to control for the effects of BMI, semi-partial correlations, with BMI entered as the covariate, were used for analyses involving body appreciation. To explore whether the data should be analyzed separately for gender (i.e., females and males) and race/ethnicity (i.e., Caucasians, Asians, Caucasian females, Asian females, Caucasian males, and Asian males), correlational analyses between study variables were run separately for each of these groups, when there was sufficient power. As the patterns of correlations differed between groups, analyses were run separately for each of the aforementioned groups. For all analyses, the pairwise method was used for missing data, in order to preserve the maximum available data points. Correlation coefficients (r values) were examined to determine the direction and magnitude of the relationship between study variables. Significant findings were interpreted as results that have a p value of .05 or lower.

To determine if patterns of correlations statistically differed between groups (e.g., males and females) and within groups (e.g., maternal versus paternal variables for females), correlation coefficients were converted using Fisher’s normalizing variance stabilizing transformation of correlation coefficients. Tests for comparing two
independent correlations and two dependent correlations were used as appropriate, based on the Fisher’s transformations (Field, 2009). Differences between correlations were calculated and then compared to the standard normal distribution. Significant findings were interpreted as results that have a $p$ value of .05 or lower. In some instances where sample sizes were low, the power to detect a statistically significant correlation may have been reduced. Therefore, differences between patterns of a significant and a non-significant correlation in two groups were reported.

In order to reduce the chances of making a Type I error and reduce the potential for false positives, independent samples $t$-tests were conducted to determine if there were any significant differences on the means of study variables between: (a) families where only the adolescent participated, (b) families where the adolescent and one parent participated, and (c) families where the adolescent and two parents participated. $T$-tests were run separately for all participants, by gender, and by race/ethnicity (i.e., Caucasian females, Asian females, Caucasian males, and Asian males). Results showed no significant differences on study variables. As there were no significant differences, an ANOVA was not performed. Based on these non-significant results, data analyses were run including all participants, regardless of how many family members participated.

Correlations were run between parent composite scores (i.e., the average of mother and father scores) and study variables. Results showed that parental composite scores were heavily associated with maternal scores. That is, the pattern of results found using the parental composite was similar to those found using maternal scores, and some of the findings with paternal scores were lost. Overall, maternal and paternal scores were not significantly correlated with each other. Therefore, in order to obtain a full understanding of the associations between family members instead of using a parental composite score, analyses were run separately for mothers and fathers.

When running analyses, low sample sizes became problematic for parental variables in some groups. For both Caucasian females and Asian females, paternal variables had low sample sizes ($n = 15$ and $13$, respectively), but they were deemed sufficient to run analyses. For Caucasian males and Asian males, both maternal ($n = 10$
for Caucasian males and \( n = 12 \) for Asian males) and paternal (\( n = 7 \) for Caucasian males and \( n = 9 \) for Asian males) variables had very low sample sizes, and therefore these variables were not used in any analyses.

### 3.5. Assumptions

Prior to running any analyses, the assumptions of (1) independence of observations, (2) bivariate normally distributed data, and (3) homoscedasticity (i.e., homogeneity of variance) were checked to ensure that there were no violations. Assumptions were checked for each study variable and for each of the groups of interest. First, the assumption of independence of observations was considered during data collection. Second, the assumption of bivariate normally distributed data was tested by visually inspecting normal probability (p-p) plots, normal Q-Q plots, and histograms with normal curves. Scores clustered around the line of normality support the assumption of bivariate normal data. Furthermore, the assumption of bivariate normal data was quantitatively tested with the Kolmogorov-Smirnov test, and examining values of skewness and kurtosis. Non-significant results (\( p > .05 \)) for the Kolmogorov-Smirnov test are in support of the assumption of normality. Skewness and kurtosis values within 3 standard deviations of their respective means were considered in support of the assumption of normality. Third, the assumption of homoscedasticity was checked using Levene’s test for equality of variances. For this test, the following groups were compared: males and females, Caucasians and Asians, Caucasian females and Asian females, and Caucasian males and Asian males. Non-significant results (\( p > .05 \)) suggest that variances are roughly equal and therefore, the assumption of homoscedasticity is tenable.
4. Results

4.1. Tested Assumptions

Prior to running any analyses, the assumptions of (1) independence of observations, (2) bivariate normally distributed data, and (3) homoscedasticity (i.e., homogeneity of variance) were checked to ensure that there were no violations. Assumptions were checked for each study variable and for each of the groups of interest. First, the assumption of independence of observations was accepted to be true because sound data collection strategies were employed (i.e., scores were independent as each participant only participated once).

Second, the assumption of bivariate normally distributed data was tested. In each of the groups of interest, normal p-p plots and normal Q-Q plots show that all data points for each of the variables did not deviate markedly from the line of normality. Histograms revealed that data points did not deviate markedly from the normal distribution curve. Results from Kolmogorov-Smirnov tests supported the assumption of normality for all variables.

When examining values of skewness, BMI was moderately positively skewed in all groups. All other variables were moderately negatively skewed. Among the various groups of interest, variables had moderately positive or moderately negative values of kurtosis. Although, all values of skewness and kurtosis were within 3 standard deviations of their respective means, therefore adhering to the assumption of normally distributed data. Overall, all the visual and quantitative tests conducted suggest that the assumption of normality is tenable.
Third, the assumption of homoscedasticity was tested using Levene’s test. Overall, the results from this test were not statistically significant, suggesting that variances are roughly equal. Therefore, the assumption of homoscedasticity is tenable.

4.2. **Hypothesis A: Investigating the Associations between Study Variables**

Table 1 presents descriptive statistics for all study variables among all participants ($N = 224$; Appendix A).

*A.1: Adolescent HESS self-description scores will be positively associated with (a) HESS importance, and (b) body appreciation, among adolescents.* This hypothesis was supported. Among all participants, adolescent HESS self-description scores (i.e., self-description as a healthy eater) were positively associated with their HESS importance and body appreciation scores (controlling body appreciation for adolescent BMI; see Table 2).

*A.2: Adolescent HESS importance scores will be positively associated with body appreciation among adolescents.* This hypothesis was not supported. Among all participants and controlling for adolescent BMI, adolescent HESS importance scores (i.e., perceived importance of healthy eating to one’s self-image) were not significantly associated with body appreciation ($p > .55$).

4.3. **Hypothesis B: Investigating the Impact of Gender on Study Variables**

*B.1: There will be no gender differences on HESS self-description scores.* This hypothesis was supported: No significant differences between means were revealed between males and females on the HESS self-description scale ($p > .95$; see Table 3).

*B.2: Females will report significantly higher HESS importance scores, compared to males.* This hypothesis was supported: On average, females reported significantly
greater mean HESS importance scores ($M = 7.79$, $SE = .18$), compared to males ($M = 6.85$, $SE = .30$), $t(221) = -2.85$, $p < .01$, $r = .22$ (a small effect).

**B.3: Females will report lower body appreciation scores, compared to males.** This hypothesis was supported: On average, females reported significantly lower mean body appreciation scores ($M = 3.64$, $SE = .06$), compared to males ($M = 3.99$, $SE = .07$), $t(221) = -3.44$, $p < .01$, $r = .26$ (a small effect).

**B.4: Gender differences on the pattern of correlations were investigated in an exploratory manner.** For both females and males and collapsing across races/ethnicities, adolescent HESS self-description scores were positively associated with their HESS importance and body appreciation (controlling body appreciation for adolescent BMI; see Table 4).

### 4.4. Hypothesis C: Exploring the Impact of Race/Ethnicity on Study Variables

**C.1: Racial/ethnic differences on the means of study variables were explored.** On average, Asians reported significantly more frequent family dinners ($M = 5.13$, $SE = .21$), compared to Caucasians ($M = 4.41$, $SE = .30$), $t(173) = -2.01$, $p < .05$, $r = .15$ (a small effect; see Table 5). There were no other significant differences between Caucasians and Asians (all $p$s > .05). There were no statistically significant differences between Caucasian females and Asian females on any of the study variables (all $p$s > .05; see Table 6). Similarly, there were no statistically significant differences on study variables between Caucasian males and Asian males (all $p$s > .05; see Table 7).

**C.2: Racial/ethnic differences on the patterns of correlations were explored.** For both Asians and Caucasians and collapsing across gender, adolescent HESS self-description scores were associated with their HESS importance (see Table 8). Additionally, in Asians, controlling for adolescent BMI, adolescent HESS self-description was positively associated with their body appreciation.
When investigating correlational results of females by race/ethnicity (see Table 9), adolescent HESS self-description scores were not significantly associated with any of the adolescent study variables for Caucasian females (all $p > .05$), but was positively correlated with adolescent body appreciation for Asian females, controlling for adolescent BMI. When investigating correlational results of males by race/ethnicity (see Table 10), adolescent HESS self-description scores were similarly not significantly associated with any of the adolescent study variables for Caucasian males (all $p > .05$), but was correlated with variables for Asian males. For Asian males, HESS self-description was positively associated with their HESS importance and body appreciation (controlling body appreciation for adolescent BMI).

Collapsing across races/ethnicities and gender and controlling for adolescent BMI, adolescent HESS importance was not significantly associated with body appreciation for females, males, Caucasians, or Asians (all $p > .05$). When investigating correlational results of females and males by race/ethnicity, and controlling for adolescent BMI, adolescent HESS importance was not significantly associated with body appreciation for Caucasian females, Asian females, Caucasian males, or Asian males (all $p > .05$).

### 4.5. Hypothesis D: Exploring the Impact of Family on Study Variables

**D.1:** Adolescent HESS self-description scores will be positively associated with (a) frequency of family dinners, (b) family mealtime rules, (c) HESS self-description among mothers and fathers, (d) HESS importance among mothers and fathers, and (e) body appreciation among mothers and fathers. Among all participants, adolescent HESS self-description was associated with higher HESS self-description and higher body appreciation among both mothers and fathers (see Table 2).

**D.2:** Adolescent HESS importance scores will be positively associated with (a) frequency of family dinners, (b) family mealtime rules, (c) HESS self-description among mothers and fathers, (d) HESS importance among mothers and fathers, and (e) body appreciation among mothers and fathers. Among all participants, adolescent HESS
importance was positively correlated with maternal HESS importance and maternal body appreciation (see Table 2). Adolescent HESS importance was not significantly associated with any paternal variables (all ps > .05).

D.3: Adolescent body appreciation scores will be positively associated with (a) frequency of family dinners, (b) family mealtime rules, (c) HESS self-description among mothers and fathers, (d) HESS importance among mothers and fathers, and (e) body appreciation among mothers and fathers. Among all participants and controlling for adolescent BMI, adolescent body appreciation was positively associated with family dinners and family mealtime rules (see Table 2). Controlling for adolescent BMI, parental variables were associated with adolescent body appreciation: Adolescent body appreciation was positively associated with maternal body appreciation and HESS self-description among fathers.

D.4: Gender and racial/ethnic differences on the patterns of correlations among study variables and family variables were explored.

4.5.1. Gender Differences

Collapsing across races/ethnicities, maternal variables were positively correlated to both daughters’ and sons’ HESS self-description (see Table 4). Specifically, daughter and son HESS self-description scores were positively correlated with mother HESS self-descriptions. Moreover, higher HESS self-descriptions among daughters were associated with higher maternal body appreciation. Alternately, higher HESS self-descriptions among sons were associated with higher maternal HESS importance. Paternal variables were associated with both son and daughter HESS self-descriptions: Son and daughter HESS self-descriptions were positively correlated with fathers’ body appreciation. Additionally, higher HESS self-descriptions among sons were associated with higher father HESS self-description.

Among females, adolescent HESS importance was associated with maternal variables: Daughter HESS importance scores were positively correlated with mother HESS importance and maternal body appreciation. Adolescent HESS importance was
not significantly associated with any of the paternal variables for either females or males (all \( ps > .05 \)).

Collapsing across races/ethnicities and controlling for adolescent BMI, among females, adolescent body appreciation was positively associated with family dinners and family mealtime rules. Controlling for adolescent BMI, higher body appreciation among daughters was associated with higher maternal body appreciation, whereas maternal variables were not significantly associated with sons’ body appreciation (all \( ps > .05 \)). However, the pattern of correlation between adolescent body appreciation and maternal body appreciation was statistically different among females and males, when BMI was controlled for (\( z_{\text{diff}} = 3.05, p < .01 \)). It is important to note that this correlation was not statistically significant for males, but it may have been due to low power. Controlling for adolescent BMI, paternal variables were not significantly associated with sons’ body appreciation (all \( ps > .05 \)), although higher body appreciation among daughters was associated with higher father HESS self-description scores.

### 4.5.2. Racial/Ethnic Differences

Collapsing across gender, in Asians, adolescent HESS self-description was positively associated with family dinners (see Table 8). Maternal variables were only associated with Asian adolescents’ HESS self-description. Among Asian adolescents, HESS self-descriptions were positively correlated with mother HESS self-description and maternal body appreciation. A similar pattern emerged for paternal variables: Among Asian adolescents, HESS self-descriptions were positively correlated with father HESS self-description and paternal body appreciation. The pattern of correlations between adolescent HESS self-descriptions and fathers’ body appreciation was statistically different among Caucasians and Asians, \( z_{\text{diff}} = -1.98, p < .05 \), although the correlation was not statistically significant among Caucasians.

For Asians, adolescent HESS importance was positively associated with family dinners. Maternal variables were only associated with Asian adolescents’ HESS importance: Higher HESS importance among Asian adolescents was associated with higher mother HESS importance and higher maternal body appreciation. Paternal
variables were not significantly associated with Caucasian or Asian adolescents' HESS importance (all ps > .05). A within-in group investigation showed that the pattern of correlations between HESS importance among Asian adolescents and maternal HESS importance was statistically different from the correlation between HESS importance among Asian adolescents and HESS importance among fathers, $z_{diff} = 2.06, p < .05$, although the correlation was not significant between Asian adolescents and fathers. Another within-in group investigation showed that the pattern of correlations between HESS importance among Asian adolescents and maternal body appreciation was statistically different from the correlation between HESS importance among Asian adolescents and body appreciation among fathers, $z_{diff} = 1.97, p < .05$, although the correlation was not significant between Asian adolescents and fathers.

For both Caucasians and Asians and collapsing across gender, as well as controlling for adolescent BMI, adolescent body appreciation was positively associated with family mealtime rules for both Caucasians and Asians, while body appreciation was also positively associated with family dinners for Caucasians only. Controlling for BMI, the pattern of correlations between adolescent body appreciation and family mealtime rules was statistically different in Caucasians and Asians, $z_{diff} = 2.74, p < .01$. Controlling for adolescent BMI, higher body appreciation among Caucasian and Asian adolescents was associated with higher maternal body appreciation. Additionally, higher body appreciation among Asian adolescents was positively correlated with maternal HESS self-description. Controlling for adolescent BMI, paternal variables were only associated with Asian adolescent scores: Higher body appreciation among Asian adolescents was positively correlated with father HESS self-description scores.

4.5.3. Comparing Females by Race/Ethnicity

In contrast to results found comparing females and males and collapsing across races/ethnicities, when investigating correlational results of females by race/ethnicity, adolescent HESS self-description scores was not significantly associated with maternal or paternal variables for Caucasian females (all ps > .05), but was correlated with several variables for Asian females (see Table 9). For Asian females, adolescent HESS self-description was positively associated with family dinners. Parental variables were
associated with Asian daughters’ HESS self-description: Daughter HESS self-descriptions were positively correlated with both mother and father HESS self-descriptions. Additionally, higher HESS self-descriptions among Asian daughters were associated with higher father body appreciation, but not for Caucasian daughters. The pattern of correlations between daughter HESS self-descriptions and body appreciation among fathers was statistically different among Caucasian and Asian females, $z_{\text{diff}} = -2.07$, $p < .05$, although this correlation was not statistically significant in Caucasian females.

In contrast to results found collapsing across races/ethnicities, when investigating correlational results of females by race/ethnicity, adolescent HESS importance was positively correlated with family dinners for Asian females, but not for Caucasian females. This pattern of correlations was statistically different among Caucasian and Asian females, $z_{\text{diff}} = -2.51$, $p < .05$. For Caucasian females, HESS importance was not significantly associated with any of the maternal variables (all $p$s $>.05$). Although among Asian females, daughter HESS importance was positively correlated with mothers’ HESS importance. An opposite pattern emerged for paternal variables. For Caucasian females, daughter HESS importance was positively correlated with fathers’ HESS importance, but not for Asian females. The pattern of correlations between daughter HESS importance and father HESS importance was statistically different among Caucasian and Asian females, $z_{\text{diff}} = 2.18$, $p < .05$, although this correlation was not statistically significant for Asian females. Among Asian females, HESS importance was not significantly associated with any of the paternal variables (all $p$s $>.05$). A within-in group investigation showed that the pattern of correlations between HESS importance among Asian daughters and maternal HESS importance was statistically different from the correlation between HESS importance among Asian daughters and HESS importance among fathers, $z_{\text{diff}} = 2.15$, $p < .05$, although this correlation was not significant between Asian daughters and fathers.

In contrast to results found collapsing across races/ethnicities, when investigating correlational results of females by and controlling for adolescent BMI, adolescent body appreciation was positively associated with family mealtime rules for both Caucasian and Asian females. This pattern of correlations was statistically different in Caucasian
and Asian females, when BMI was controlled for ($z_{\text{diff}} = 2.04, p < .05$). Additionally, for Caucasian females, adolescent body appreciation was positively associated with family dinners, but not for Asian females. This pattern of correlations was statistically different among Caucasian and Asian females, when BMI was controlled for ($z_{\text{diff}} = 1.97, p < .05$). However, it is important to note that this correlation was not statistically significant for Asian females. Controlling for adolescent BMI, maternal variables were associated with both Asian and Caucasian daughters’ body appreciation. Specifically, higher body appreciation among Caucasian daughters was associated with higher maternal body appreciation, after controlling for adolescent BMI. Higher body appreciation among Asian daughters was also associated with higher maternal body appreciation, as well as higher maternal HESS self-description. Controlling for adolescent BMI, paternal variables were not significantly correlated to Caucasian or Asian daughters’ body appreciation (all $p$s > .05), after controlling for BMI. A within-in group investigation showed that after controlling for BMI, the pattern of correlations between body appreciation among Caucasian adolescents and maternal body appreciation was statistically different from the correlation between body appreciation among Caucasian adolescents and body appreciation among fathers, $z_{\text{diff}} = 2.22, p < .05$, although this correlation was not significant between Caucasian adolescents and fathers.

4.5.4. Comparing Males by Race/Ethnicity

Due to low power, when investigating correlational results of males by race/ethnicity, data analyses were limited to adolescent-reported variables. All correlations were non-significant (see Table 10).
5. Discussion

The aims of this current study were to: (1) investigate the associations between the HESS and body appreciation in an adolescent sample, (2) explore gender and racial/ethnic differences for the HESS and body appreciation, and (3) explore family factors that are associated with the HESS and body appreciation (i.e., frequency of family dinners, family mealtime rules, parental HESS, and parental body appreciation), and whether these associations differ by gender and race/ethnicity.

In summary, no gender differences were found on adolescents’ healthy eater self-description. However, in comparison to males, females reported significantly higher perceived importance and lower body appreciation. No racial/ethnic differences were found for the HESS or body appreciation. However, Asians reported significantly more frequent family dinners, compared to Caucasians.

Adolescents’ self-description as a healthy eater was positively associated with: (a) perceived importance of healthy eating to one’s self-image among adolescents, (b) adolescent body appreciation, (c) family dinners among Asians only, (d) self-description as a healthy eater among mothers and fathers, and (e) body appreciation among mothers and fathers. Adolescents’ perceived importance of healthy eating to one’s self-image among adolescents was positively correlated with: (a) family dinners among Asians only, (b) perceived importance of healthy eating to one’s self-image among mothers and fathers, and (c) body appreciation among mothers. Adolescent body appreciation was positively associated with (a) family dinners, (b) family mealtime rules, (c) self-description as a healthy eater among mothers and fathers, and (d) body appreciation among mothers.

Of the three main variables investigated, adolescent HESS self-description was associated with the most positive outcomes, across the various groups under investigation. This supports past findings that the HESS self-description has stronger
associations to positive outcomes, compared to the HESS importance (Holub et al., 2012). This connects to past research that shows that self-identifying with healthy behaviours increases actual participation and commitment to those behaviours (e.g., Kalavama, Maes, & de Gucht, 2010; Lu et al., 2012). This finding also supports past research that shows healthy eating being linked to other healthy lifestyle outcomes, such as having a healthy body weight, being a non-smoker (Hearty, McCarthy, Kearney, & Gibney, 2007) and engaging in more frequent physical activity (Jessor, Turbin, & Costa, 2010). For individuals who engage in healthy eating, they may view healthy eating as one of several components of living a healthy lifestyle.

Interestingly, there was a positive correlation between the HESS self-description and body appreciation among the majority of groups under investigation. This relationship supports past research that shows that eating healthily in order to take proper care of one’s body is a central component of body appreciation (Tylka, 2011; Wood-Barcalow et al., 2010). This finding may be explained by the fact that individuals with high body appreciation are often more in tuned with their bodily needs and focused on the health of their bodies (Tylka, 2011), which may lead these individuals to engage in a variety of healthful behaviours, such as eating healthily, which may have led this study’s participants to self-identify as healthy eaters.

 Unexpectedly, among all groups under investigation, the HESS importance was not correlated with body appreciation. As previously mentioned, this supports past findings that the HESS self-description has stronger associations to positive outcomes, compared to the HESS importance (Holub et al., 2012). However, it is surprising as the importance that someone places on healthy eating to their self-image could be considered a healthful behaviour that individuals with high body appreciation would engage in. However, individuals with high body appreciation may be engaging in healthful behaviours other than healthy eating, such as physical activity. Engaging in physical activity is connected to a key feature of body appreciation: Appreciating the functionality of one’s body. Engaging in other healthful behaviours may mean that identifying as a healthy eater or placing a high importance on healthy eating for one’s self-image would not be as important.
When considering the impact of gender on study variables, there were gender differences for adolescent HESS importance, with females reporting significantly higher HESS importance, compared to males. These findings replicate findings by Holub and colleagues (2012). Females reporting significantly higher perceived importance of healthy eating to one’s self-image could be explained by the increased pressure for adolescent females to maintain a healthy physique throughout puberty, compared to males (Presnell, Bearman, & Stice, 2004; Stice & Whitenton, 2002). During puberty, females gain considerably more body fat compared to males, which may lead females to believe that they are developing unhealthy body sizes and shapes (Wertheim & Paxton, 2011). Females may view healthy eating as one method to achieve or maintain a healthy weight and physique, and therefore, they may place a greater importance on healthy eating, compared to males.

As predicted, females reported significantly lower body appreciation, compared to males. This supports past research that explored gender differences in body appreciation among adolescents (Lobera & Rios, 2011). Moreover, this finding supports research in the field of negative body image, where negative body image is higher among adolescent females, compared to adolescent males (Presnell et al., 2004; Stice & Whitenton, 2002). Therefore, it would be expected that females would have lower body appreciation. This may be explained by pressure from family, friends, media and the larger society for females to achieve the unattainable thin ideal, therefore leading to body dissatisfaction (Cash & Smolak, 2011).

When considering the impact of race/ethnicity on study variables, the HESS and body appreciation were associated with more family variables for Asians. For example, adolescent HESS self-description was associated with family variables for Asians, but not for Caucasians: Among Asians, the HESS self-description was associated with family dinners, maternal HESS self-description and body appreciation, and paternal HESS self-description and body appreciation. On the other hand, among Caucasians, only adolescent body appreciation was associated with maternal body appreciation. This contradicts research that shows the influence of parents on eating habits and body image in predominantly Caucasian samples (e.g., Rodgers, Faure, & Chabrol, 2009; Vincent & McCabe, 2000). However, the limited findings among Caucasians may have
been due to low power, as there were considerably fewer Caucasian adolescents, mothers and fathers in this study, compared to Asians.

There were no gender or racial/ethnic differences on adolescents’ healthy eater self-description, which fits with past research on the HESS (Holub et al., 2012). However, this is somewhat surprising given that past literature shows gender and racial/ethnic differences in actual healthy eating habits. Therefore, there appears to be a difference between viewing oneself as a healthy eater and actually engaging in healthy eating. With a national focus on combating childhood and adolescent obesity, and corresponding messaging and prevention programs being implemented in schools and community centers across the nation, youth – regardless of their gender and race/ethnicity – are receiving the message that overweight and obese people are unhealthy, unacceptable and undesirable (Schwartz & Henderson, 2009). Perhaps, the participants in this current study felt pressured to describe themselves as healthy eaters, regardless of their actual eating habits, to avoid feeling stigmatized for having unhealthy eating habits.

There were no racial/ethnic differences for body appreciation, which is somewhat surprising in light of past research that shows among female adolescents, Caucasians are more likely to report body dissatisfaction, compared to Asians (van den Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer, 2010). However, it is important to note that body appreciation is much more than simply the opposite of negative body image. Therefore, research on body dissatisfaction may not mirror findings on body appreciation. Additionally, it is important to keep in mind that race/ethnicity does not equate to culture, and therefore, there may be cultural factors at play. For example, Asian participants may have had equivalent levels of body appreciation to Caucasian participants, possibly due to acculturation to Western culture. Acculturation to Western culture may be accompanied with adopting Western body image ideals (e.g., the thin ideal) and resulting body dissatisfaction. With regards to body image development during adolescence, often the influence of the peer group increases, resulting in attempts to fit into one’s social group (Wertheim & Paxton, 2011). Asian adolescents acculturating to their Western peers may see their Caucasian peers engaging in behaviours indicative of lower body appreciation such as fat talk and dieting (Kawamura,
In an attempt to acculturate and fit in, Asian adolescents may engage in these behaviours too, resulting in lower body appreciation – equivalent to Caucasians. Although acculturation was not measured in this study, future research could examine the influence of acculturation on the relationship between body appreciation and race/ethnicity. An alternate explanation that considers cultural factors may be collectivistic beliefs in Asian cultures. Collectivistic cultures place an emphasis on connectedness of relationships, where families may be judged on an individual’s actions (Markus & Kitayama, 1991). Therefore, Asian adolescents may feel collective pressure to achieve an ideal physical appearance, in order to avoid bringing shame and embarrassment to their families (Kawamura, 2011).

When considering the impact of family variables on study variables, across numerous groups under investigation, body appreciation was robustly associated with both family dinners and family mealtime rules. For example, adolescent body appreciation and family dinners was correlated among all participants, females, Caucasians, and Caucasian females. This relationship may not have been detected for males and Caucasian males, due to low power. Among Asians and Asian males, this relationship was no longer significant, after controlling for adolescent BMI. This may mean that this relationship is being driven by BMI, which may also explain the null finding for Asian females. This study’s significant findings supports research that shows that family dinners are protective against eating disorders (e.g., Neumark-Sztainer, Wall, Story, & Fulkerson, 2004), and in turn eating disorders are associated with negative body image (Polivy & Herman, 2000). In light of this past research, it makes sense that an aspect of positive body image (i.e., body appreciation) is associated with family dinners, which is an aspect of healthy eating. The past research may also explain the null findings: Among Asians, if BMI drives the relationship between family dinners and body appreciation, then an overweight Asian adolescent may be expected to have higher body dissatisfaction (i.e., body dissatisfaction is positively correlated with weight among adolescents; Calzo et al., 2012), and therefore, their lower body appreciation may be more strongly tied to their BMI, rather than the frequency of family dinners.

Adolescent body appreciation and family mealtime rules were correlated among all participants, females, Caucasians, Asians, Caucasian females, and Asian females.
This relationship may have not emerged for males, Caucasian males, and Asian males, due to low power. In the literature, there is no consensus on whether family mealtime rules are a protective or risk factor. However, a focus group study found that adolescents believed that having family mealtime rules led to healthier eating practices (e.g., Neumark-Sztainer et al., 2000). Family mealtime rules may represent a structured and positive environment, which may potentially nurture the growth of body appreciation.

In terms of parental influences, collapsing across race/ethnicity, among females, the parent of the same gender (i.e., the mother) appeared to be more influential. For instance, among females, more adolescent variables were associated with maternal variables (e.g., adolescent HESS self-description was associated with maternal HESS self-description and body appreciation, adolescent HESS importance was associated with maternal HESS importance and body appreciation, and adolescent body appreciation was associated with maternal body appreciation). Conversely, paternal variables were not significantly correlated to Caucasian or Asian daughters’ body appreciation. This collection of findings supports the importance of parents for their children of the same gender. Past research shows that parents are often more influential in transmitting values, such as body image, onto their children of the same gender (Abraczinskas, Fisak, & Barnes, 2012).

However, for males, although the parent of the same gender (i.e., the father) was more influential, mothers were also influential: For example, HESS self-description among sons was associated with maternal HESS self-description and HESS importance, as well as paternal HESS self-description and paternal body appreciation. Although the influence of parents on their children of the same gender is a dominant view within systems theory (Abraczinskas et al., 2012), there is research that supports the importance of the mother for males. For example, Vincent and McCabe (2000) found that maternal comments about weight and eating predicted binge eating and extreme weight loss behaviours in adolescent males. A possible explanation for the influence of mothers on male children (as well as female children) is that mothers are often more involved with meal preparation and planning (McIntosh et al., 2010), and therefore, their views about healthy eating and body appreciation may be easily transmitted or modelled.
to their children. However, it is important to consider that adolescents may be influencing their parents instead.

Interestingly, maternal HESS importance was positively correlated with HESS importance among Asian females, whereas paternal HESS importance was positively correlated with HESS importance among Caucasian females. This suggests that mothers may play an important role for Asian females, whereas fathers may play an important role for Caucasian females. This may be due to Asians being more likely to adhere to traditional division of labour where child-rearing roles fall primarily to the mother (Qin & Chang, 2013). Conversely, Western families are more likely to subscribe to equalitarian parenting and gender equality (Oun, 2013), where the child-rearing roles are shared and therefore, the father may have greater influence and more interaction with children. Therefore in this current study, Asian female participants may have been more heavily influenced by their mothers as the mothers may have been more involved in child-rearing, thus providing more opportunities for the mother and child to influence each other’s healthy eating and body appreciation. On the other hand, Caucasian female participants may have been more heavily influenced by their fathers because the fathers were more active in child-rearing. Due to an equalitarian parenting environment, Caucasian mothers would have been active in child-rearing as well, which may also explain the importance of the mother’s influence among Caucasian females.

5.1. Limitations

The central limitation to this study is the low sample sizes, particularly for mothers and fathers. It was suggested by adolescent participants and their teachers that a high proportion of parents could not participate because they did not speak English. In the future, translation of questionnaire packages should be considered. Another reason why some students cited that both parents did not participate is the issue of shared custody, where an adolescent may not have visited the other parent during the time frame of the study, leaving only one parent being able to participate. In the future, more time should be given for parents to complete questionnaire packages. The sample size for males was also low. Adolescent participants were recruited from psychology classes, which were predominantly female. In order to recruit more male participants in a school
setting, future research could be conducted in homeroom classes or in physical education classes, where this study would fit with the nutrition curriculum, yet more males would be enrolled. The cross-sectional nature of this study prevented the investigation of cause-and-effect relationships. Further, possible cohort effects may confound this study’s findings. With regards to the statistical analyses performed in this study, as many tests were conducted and then interpreted at an alpha level of .05, there is a possibility for false positives. If pairwise comparisons (i.e., between gender and race/ethnicity) were interpreted at reduced alpha levels, some of the reported gender and racial/ethnic differences may not have reached statistical significance. Lastly, retrospective recall was used in this study. However, a method such as daily diaries may produce more accurate responses, particularly for variables such as the frequency of family dinners and the presence of family mealtime rules.

5.2. Strengths

This study was the first to thoroughly investigate the HESS and body appreciation among adolescents, and the impact of gender, race/ethnicity, and the family. This study’s sample represents a portion of the population – adolescents – where there is a dearth of research on the variables under investigation. The study participants were racially/ethnically diverse, which allowed for racial/ethnic comparisons between Caucasians and Asians. Additionally, data was collected from mothers and fathers, which assisted in teasing apart the influences of individual family members. Another strength of this study was that the sample was normative adolescents, which allows the findings to be easily generalized to the larger population.

5.3. Implications and Future Research

This study’s results are tentative, as many of the analyses had low power. Therefore, the implications of this study are somewhat limited. This study contributes to the modern positive psychology movement, by determining that the HESS and body appreciation are linked to positive outcomes for adolescents. Future research could examine whether these two variables are protective against negative outcomes in
adolescents, such as disordered eating. Moreover, future research should explore the HESS and body appreciation in larger samples, in order to have greater power to detect significant results. Additionally, future research should explore the various ways that individuals with high body appreciation engage in healthful behaviours, beyond healthy eating (e.g., physical activity). It still remains unclear under what circumstances family mealtime rules are considered a protective factor versus a risk factor. Future research should explore this variable further, possibly using qualitative methods. In order to help explain group differences, future research could explore potential moderators (e.g., endorsement of the thin/muscular ideal, ratings of collectivism versus individualism, ratings of equalitarian versus patriarchy parenting, self-efficacy for healthy eating). Lastly, future research should examine the influence of acculturation on the relationship between body appreciation and race/ethnicity.
References


# Appendix A

## Statistics Tables

### Table 1. Descriptive Statistics for Study Variables for All Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Adolescent Adolescents (n = 224)</th>
<th>Mothers (n = 100)</th>
<th>Fathers (n = 59)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
</tr>
<tr>
<td>BMI</td>
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<td>3.97 (.59)</td>
</tr>
<tr>
<td>Family dinners</td>
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</tr>
<tr>
<td>Mealtime rules</td>
<td>5.64 (1.61)</td>
<td>2.00-8.00</td>
<td></td>
</tr>
</tbody>
</table>

*Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale.*
Table 2. Bivariate and Semi-Partial Correlations of Study Variables for All Participants

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>Adolescents (n = 224)</th>
<th>Mothers (n = 100)</th>
<th>Fathers (n = 59)</th>
</tr>
</thead>
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<tr>
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</tr>
<tr>
<td>BAS</td>
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<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. Semi-partial correlations are italicized.

* p < .05 ** p < .01 *** p < .001
Table 3. Descriptive Statistics for Study Variables Comparing Female ($n = 144$) and Male ($n = 80$) Participants

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<th>Fathers</th>
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<tbody>
<tr>
<td></td>
<td>Females ($n = 144$)</td>
<td></td>
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<td>Girls’ mothers ($n = 71$)</td>
<td></td>
<td>Boys’ mothers ($n = 29$)</td>
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<tr>
<td></td>
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<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
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<td>7.19 (2.59)</td>
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</tr>
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</table>

*Note.* BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. Means sharing a common subscript are statistically different between groups at $\alpha = .05$. Means without subscripts indicate that means are not significantly different between groups.
<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>Adolescents (n = 144)</th>
<th>Mothers (n = 71)</th>
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<td>BAS</td>
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</table>

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. 
Correlations sharing a common subscript represent statistically different between-group patterns of correlations at α = .05. Semi-partial correlations are italicized. 
* p < .05  ** p < .01  *** p < .001
Table 5. Descriptive Statistics for Study Variables Comparing Caucasians (n = 63) and Asian (n = 113) Participants

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</tr>
<tr>
<td>HESS SD</td>
<td>8.01 (1.59)</td>
<td>4.00-11.00</td>
<td>7.73 (1.54)</td>
<td>3.33-11.00</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>7.33 (2.45)</td>
<td>1.00-11.00</td>
<td>7.67 (2.01)</td>
<td>1.00-11.00</td>
</tr>
<tr>
<td>BAS</td>
<td>3.91 (.55)</td>
<td>2.23-5.00</td>
<td>4.00 (.63)</td>
<td>2.54-5.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adolescents</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fathers</td>
<td>Caucasians’ fathers (n = 22)</td>
<td>M (SD)</td>
<td>Range</td>
<td>Asians’ fathers (n = 22)</td>
</tr>
<tr>
<td>HESS SD</td>
<td>7.17 (2.16)</td>
<td>2.00-11.00</td>
<td>7.24 (2.29)</td>
<td>2.00-9.67</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>6.39 (2.71)</td>
<td>1.00-11.00</td>
<td>7.32 (2.43)</td>
<td>2.00-11.00</td>
</tr>
<tr>
<td>BAS</td>
<td>3.94 (.50)</td>
<td>2.69-4.77</td>
<td>4.13 (.68)</td>
<td>2.31-4.85</td>
</tr>
</tbody>
</table>

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. Means sharing a common subscript are statistically different between groups at $\alpha = .05$. Means without subscripts indicate that means are not significantly different between groups.
Table 6. Descriptive Statistics for Study Variables Comparing Caucasian Female (n = 41) and Asian Female (n = 69) Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th></th>
<th>Adolescents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Caucasian females (n = 41)</td>
<td>Asian females (n = 69)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td>HESS SD</td>
<td>7.44 (1.86)</td>
<td>3.67-10.67</td>
<td>6.97 (1.64)</td>
<td>1.67-9.67</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>8.02 (2.07)</td>
<td>2-11.00</td>
<td>7.52 (2.19)</td>
<td>1.00-11.00</td>
</tr>
<tr>
<td>BAS</td>
<td>3.60 (.90)</td>
<td>1.54-4.92</td>
<td>3.73 (.65)</td>
<td>2.00-4.85</td>
</tr>
<tr>
<td>Family dinners</td>
<td>4.76 (2.23)</td>
<td>0-7.00</td>
<td>5.35 (1.98)</td>
<td>0-7.00</td>
</tr>
<tr>
<td>Mealtime rules</td>
<td>5.61 (1.73)</td>
<td>2.00-8.00</td>
<td>5.72 (1.53)</td>
<td>2.00-8.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th></th>
<th>Adolescents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Caucasians' mothers (n = 26)</td>
<td>Asians' mothers (n = 28)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td>HESS SD</td>
<td>7.90 (1.31)</td>
<td>4.67-10.00</td>
<td>8.00 (1.58)</td>
<td>4.33-11.00</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>7.14 (2.52)</td>
<td>1.00-11.00</td>
<td>7.94 (2.18)</td>
<td>1.00-11.00</td>
</tr>
<tr>
<td>BAS</td>
<td>3.92 (.59)</td>
<td>2.23-5.00</td>
<td>4.04 (.61)</td>
<td>2.77-5.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th></th>
<th>Adolescents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Caucasians' fathers (n = 15)</td>
<td>Asians' fathers (n = 13)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td>Range</td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td>HESS SD</td>
<td>7.36 (2.09)</td>
<td>2.00-11.00</td>
<td>7.21 (2.44)</td>
<td>2.00-9.67</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>6.09 (2.97)</td>
<td>1.00-10.00</td>
<td>7.82 (2.30)</td>
<td>2.00-11.00</td>
</tr>
<tr>
<td>BAS</td>
<td>4.01 (.48)</td>
<td>3.25-4.77</td>
<td>4.23 (.64)</td>
<td>2.31-4.77</td>
</tr>
</tbody>
</table>

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. All means are not significantly different between groups.
Table 7. Descriptive Statistics for Study Variables Comparing Caucasian Male (n = 22) and Asian Male (n = 44) Participants

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>Caucasian males (n = 22)</th>
<th>Asian males (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>Range</td>
</tr>
<tr>
<td>BMI</td>
<td>22.40 (4.68)</td>
<td>15.98-36.08</td>
</tr>
<tr>
<td>HESS SD</td>
<td>7.14 (1.89)</td>
<td>2.00-11.00</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>6.95 (2.88)</td>
<td>1.00-11.00</td>
</tr>
<tr>
<td>BAS</td>
<td>4.01 (.51)</td>
<td>3.00-4.92</td>
</tr>
<tr>
<td>Family dinners</td>
<td>3.77 (2.58)</td>
<td>0-7.00</td>
</tr>
<tr>
<td>Mealtime rules</td>
<td>5.95 (1.65)</td>
<td>3.00-8.00</td>
</tr>
</tbody>
</table>

*Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. All means are not significantly different between groups.*
Table 8. Bivariate and Semi-Partial Correlations of Study Variables for Caucasian (*n* = 63) and Asian (*n* = 113) Participants

<table>
<thead>
<tr>
<th></th>
<th>Adolescents (<em>n</em> = 63)</th>
<th>Mothers (<em>n</em> = 36)</th>
<th>Fathers (<em>n</em> = 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMI HESS SD HESS IMP BAS Family dinners Mealtime rules</td>
<td>HESS SD HESS IMP BAS</td>
<td>HESS SD HESS IMP BAS</td>
</tr>
<tr>
<td><strong>Caucasians</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HESS SD</td>
<td>.04 1 .27* .09 .10 .17</td>
<td>.27 -.11 .26</td>
<td>.24 .18 .15*</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>.18 - 1 -.22 -.08 -.00</td>
<td>.01 .06 .10</td>
<td>.12 .27 -.10</td>
</tr>
<tr>
<td>BAS</td>
<td>-.22 - - 1 .42** .56***</td>
<td>.06 -.07 .50**</td>
<td>.27 .01 .06</td>
</tr>
<tr>
<td><strong>Asians</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HESS SD</td>
<td>-.06 1 .42*** .29** .19* .05</td>
<td>.35* .10 .33*</td>
<td>.57** .40 .66***</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>.00 - 1 .07 .22* .13</td>
<td>.15 .47** .32***</td>
<td>-.22 -.07* -.22**</td>
</tr>
<tr>
<td>BAS</td>
<td>-.21* - - 1 .16 .19**</td>
<td>.51** .12 .54**</td>
<td>.47* .24 .36</td>
</tr>
</tbody>
</table>

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. Correlations sharing a common uppercase subscript represent statistically different between-group patterns of correlations at *α* = .05. Correlations sharing a common lowercase subscript represent statistically different within-group patterns of correlations at *α* = .05. Semi-partial correlations are italicized. *p < .05 **p < .01 ***p < .001
Table 9. Bivariate and Semi-Partial Correlations of Study Variables for Caucasian Female (n = 41) and Asian Female (n = 69) Participants

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>Adolescents (n = 41)</th>
<th>Mothers (n = 26)</th>
<th>Fathers (n = 15)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMI</td>
<td>HESS SD</td>
<td>HESS IMP</td>
</tr>
<tr>
<td>HESS SD</td>
<td>-0.05</td>
<td>1</td>
<td>.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.23</td>
<td>-.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.19</td>
<td>.23</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>.13</td>
<td>-1</td>
<td>-.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.20</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.66\text{**D}</td>
<td>.02</td>
</tr>
<tr>
<td>BAS</td>
<td>-.20</td>
<td>-1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.03</td>
<td>-.06</td>
</tr>
</tbody>
</table>

| Asian females |
|----------------|-----------------|-----------------|
|                | Adolescents (n = 69) | Mothers (n = 28) | Fathers (n = 13) |
|                | BMI                  | HESS SD         | HESS IMP        | BAS Family dinners | Mealtime rules |
| HESS SD        | -.08                 | 1               | .23             | .27\text{*}        | .07           |
|                |                      | .45\text{*}     | .08             | .26                | .59\text{*}   |
|                |                      | .59\text{*}     | .49             | .70\text{**E}      | .49           |
| HESS IMP       | .21                  | -1              | .09             | .27\text{*A}       | .14           |
|                |                      | .03             | .58\text{**A}  | .17                | -.32          |
|                |                      | -.32            | -.14\text{D}   | -.41               | .41           |
| BAS            | -.23                 | -1              | 1               | .15\text{B}        | .31\text{C}  |
|                |                      | .64\text{***}  | .15             | .74\text{***}      | .52           |

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. Correlations sharing a common uppercase subscript represent statistically different between-group patterns of correlations at α = .05. Correlations sharing a common lowercase subscript represent statistically different within-group patterns of correlations at α = .05. Semi-partial correlations are italicized.

\* p < .05 \*\* p < .01 \*\*\* p < .001
Table 10. Bivariate and Semi-Partial Correlations of Study Variables for Caucasian Male \((n = 22)\) and Asian Male \((n = 44)\) Participants

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMI</td>
<td>HESS SD</td>
<td>HESS IMP</td>
<td>BAS</td>
<td>Family dinners</td>
<td>Mealtime rules</td>
</tr>
<tr>
<td>HESS SD</td>
<td>.18</td>
<td>1</td>
<td>.27</td>
<td>.21</td>
<td>.26</td>
<td>.41</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>.29</td>
<td>-</td>
<td>1</td>
<td>.02</td>
<td>-.01</td>
<td>.18</td>
</tr>
<tr>
<td>BAS</td>
<td>-.48*</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>.40</td>
<td>.23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adolescent Variables</th>
<th>Asian males ((n = 44))</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BMI</td>
<td>HESS SD</td>
<td>HESS IMP</td>
<td>BAS</td>
<td>Family dinners</td>
<td>Mealtime rules</td>
</tr>
<tr>
<td>HESS SD</td>
<td>-.04</td>
<td>1</td>
<td>.61***</td>
<td>.39*</td>
<td>.11</td>
<td>.02</td>
</tr>
<tr>
<td>HESS IMP</td>
<td>-.21</td>
<td>-</td>
<td>1</td>
<td>.16</td>
<td>.14</td>
<td>.12</td>
</tr>
<tr>
<td>BAS</td>
<td>-.26</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>.29</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. BMI = body mass index; HESS SD = Healthy Eater Self-Schema Scale self-description subscale; HESS IMP = Healthy Eater Self-Schema Scale importance subscale; BAS = Body Appreciation Scale. There were no significant differences between groups. Semi-partial correlations are italicized.

* \(p < .05\) ** \(p < .01\) *** \(p < .001\)
Appendix B

Self-Report Measures

ID: _____

Demographics Questionnaires for Adolescents

1. Gender: M _____  F _____
2. Date of Birth: Year _____  Month _____
3. Age: _____
4. Ethnicity (choose one only):
   Caucasian _____  African American _____  Asian _____
   Hispanic/Latino _____  Aboriginal _____  Caribbean _____
   Middle Eastern _____  South Asian _____
   Mixed _____ (please describe: __________)
   Other _____ (please describe: __________)
5. What is your ideal weight? _____ lbs (Please note: Responding in kgs is fine.)

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

FOR RESEARCHER’S USE:

Height: _____ feet _____ inches
Weight: _____ lbs

Parent/Guardian #1 Package:  YES  NO  N/A
Parent/Guardian #2 Package:  YES  NO  N/A
Demographics Questionnaires for Parents

1. Gender: M _____     F _____
2. Date of Birth: Year _____     Month _____
3. Age: _____
4. Ethnicity (choose one only):
   Caucasian _____       African American _____        Asian _____
   Hispanic/Latino _____ Aboriginal _____                Caribbean _____
   Middle Eastern _____  South Asian _____
   Mixed _____ (please describe: _____________)
   Other _____ (please describe: _____________)
5. What is the highest level of formal education that you have completed? (choose one only)
   Less than high school _____       Some high school _____
   Completed high school _____       Some college or university _____
   Completed college _____           Completed undergrad university degree _____
   Some post-graduate training _____ Completed post-graduate training _____
6. What is your yearly family gross income for the past year (before taxes)? (choose one only)
   Less than $10,000 _____          $10,000 - $14,999 _____
   $15,000 – 19,999 _____           $20,000 - $24,999 _____
   $25,000 – 29,999 _____           $30,000 - $34,999 _____
   $35,000 – 39,999 _____           $40,000 - $44,999 _____
   $45,000 – 49,999 _____           $50,000 or more _____
   Prefer to not disclose _____
7. What is your current occupation? __________________________
8. What is your current marital status? (choose one only)
   Married _____       Divorced _____       Separated _____       Single _____
   Cohabiting _____    Engaged _____       Widowed _____
9. What is your ideal weight? _____ lbs (Please note: Responding in kgs is fine.)

10. What is your current height? _____ feet _____ inches (Please note: Responding in cms is fine.)

11. What is your current weight? _____ lbs (Please note: Responding in kgs is fine.)
### The Healthy Eater Self-Schema Scale

1) To what extent, does the term “healthy eater” describe you?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>definitely</td>
<td>doesn’t</td>
<td>describe me</td>
<td>definitely</td>
<td>describes me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2) To what extent, does the term “someone who eats in a nutritious manner” describe you?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>definitely</td>
<td>doesn’t describe me</td>
<td>definitely describes me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3) To what extent, does the term “someone who is careful about what I eat” describe you?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>definitely</td>
<td>doesn’t describe me</td>
<td>definitely describes me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4) How important is being someone who is a healthy eater to the image you have of yourself, regardless of whether or not you are someone who is a healthy eater?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all important</td>
<td>very important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5) How important is being someone who eats in a nutritious manner to the image you have of yourself, regardless of whether or not you are someone who eats in a nutritious manner?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all important</td>
<td>very important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6) How important is being someone who is careful about what you eat to the image you have of yourself, regardless of whether or not you are someone who is careful about what you eat?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all important</td>
<td>very important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Body Appreciation Scale

Please circle one rating for each question.

1 = Never   2 = Seldom   3 = Sometimes   4 = Often   5 = Always

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I respect my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. I feel good about my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. On the whole, I am satisfied with my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. Despite its flaws, I accept my body for what it is.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. I feel that my body has at least some good qualities.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6. I take a positive attitude towards my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7. I am attentive to my body’s needs.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8. My self-worth is independent of my body shape or weight.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9. I don’t focus a lot of energy being concerned with my body shape or weight.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>10. My feelings toward my body are positive, for the most part.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11. I engage in healthy behaviours to take care of my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>12. FOR FEMALES: I don’t allow unrealistically thin images of females presented in the media to affect my attitudes toward my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>FOR MALES: I don’t allow unrealistically muscular images of males presented in the media to affect my attitudes toward my body.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13. Despite its imperfections, I still like my body.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
Project Eating Among Teens-II Survey for High School Students

1. On a typical WEEK, how many times did all, or MOST, of your FAMILY living in your house eat the following meals together?
   - Breakfast _____ (out of 7)
   - Lunch _____ (out of 7)
   - Dinner _____ (out of 7)

2. On a typical WEEK, how many times was at least ONE of your PARENTS/GUARDIANS in the room with you when you ate the following meals?
   - Breakfast _____ (out of 7)
   - Lunch _____ (out of 7)
   - Dinner _____ (out of 7)

How strongly do you agree with the following statements about mealtimes in your family? (circle one rating for each question.)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

3. In my family, there are rules at mealtimes that we are expected to follow.  
   1  2  3  4

4. Manners are important at our dinner table.  
   1  2  3  4

5. In my family, a child or teen should eat all the foods served even if he/she doesn’t like them.  
   1  2  3  4

6. In my family, we don’t have to eat meals at the kitchen or dining room table.  
   1  2  3  4

7. In my family, it is okay for a child or teen to make something else to eat if he/she doesn’t like the food being served.  
   1  2  3  4
Appendix C

Family Letter of Introduction

Department of Psychology


Dear Parents/Guardians,

Your family is invited to participate in a research study *A Positive Psychology Approach to Family Meals*, conducted by Daniella D. Sieukaran, B.A. (Spec. Hons.), under the supervision of Shannon L. Zaitsoff, Ph.D. As part of my Master's thesis in Clinical Psychology, the aim of this study is to investigate factors that influence the protective effects of family meals. Britt Walton (Department Head of Social Studies, Burnaby Mountain Secondary School) and Wanda Mitchell (Director of Instruction, Burnaby School District #41) have granted us permission to conduct this study in your child’s school, as it fits with the curriculum for your child’s AP Psychology course. This study has been approved by the Simon Fraser University Research Ethics Board.

There are two components to this study:

1. **Parental/guardian participation**: Up to two parents/guardians are invited to complete a brief questionnaire package, which includes demographic information (e.g., gender, age) and surveys about eating and weight behaviours. This will take about 15 minutes to complete and will be completed at home and returned to school with your child by **Thursday February 7th**. *If your household is comprised of 2 parents/guardians, we would greatly appreciate BOTH parents/guardians participating. Although, single parent/guardian households are also encouraged to participate.*

2. **Adolescent participation**: Your child is invited to complete a brief questionnaire package, which includes demographic information (e.g., gender, age) and surveys about eating and weight behaviours (the same surveys as the parent questionnaire). This will take about 15 minutes to complete. Next, your child will be privately weighed and have his/her height measured by a researcher. This will all occur at your child’s school on **Thursday February 7th**. *If your child refrains from participating in this study, an alternate activity will be made available by the teacher. In addition to participating in this study, your child and his/her classmates will be invited to attend an optional, interactive guest lecture by the study’s primary researcher on Tuesday February 12th. The lecture will offer an overview of eating disorders and body image. This guest lecture will provide students with exposure to what university lectures are like, and students will also have the opportunity to ask questions about university life. Students who don’t participate in the research study will still be offered the opportunity to attend the lecture.*
There will be no financial compensation for this study. Refusal to participate (by one/both parents or the adolescent) or withdrawal of participation (by one/both parents or the adolescent) will have no adverse effects on the child’s grades or evaluation in the course or classroom. Further information about this study’s possible risks, benefits and ethical considerations can be found on the accompanying consent forms.

If you are interested in participating and/or having your child participate in this study, please complete and return the following enclosed documents to school with your child by Thursday February 7th:

✓ 1) Informed Consent for Parent/Guardian Participants (up to 2 copies)  
   – in the ONE designated envelope
✓ 2) Parent/Guardian Questionnaire Packages (up to 2 copies)  
   – in SEPARATE designated envelopes
✓ 3) Parental/Guardian Informed Consent for Child’s Participation (1 copy)  
   – NOT in an envelope

If the parent(s)/guardian(s) prefer to refrain from participating, but would like to give permission for your child to participate, please return only document #3.

If you have questions or concerns about this study, please feel free to contact Daniella Sieukaran (xxxxxxxxxxx) or Dr. Shannon Zaitsoff (xxxxxxxxxxx) or by phone at xxxxxxxx.

Kind regards,

Daniella D. Sieukaran, B.A. (Spec. Hons.)
Weight and Eating Lab
Department of Psychology
Simon Fraser University
Appendix D

Informed Consent Form for Parent/Guardian Participants

Study ID #: 2012s1022

Informed Consent for Parent/Guardian Participants

This research is being conducted under the permission of the Burnaby School District #41 and the Simon Fraser University Research Ethics Board. The chief concern of the Ethics Board is for the health, safety and psychological well-being of participants. Should you wish to obtain information about your rights as a participant in research or the responsibilities of researchers, please contact Dr. Hal Weinberg, Director, Office of Research Ethics at xxxxxxxxxx or xxxxxxxxxx.

Study Title: A Positive Psychology Approach to Family Meals

Principal Investigator: Daniella Sieukaran, B.A. (Spec. Hons.), under the supervision of Shannon Zaitsoff, Ph.D.

Purpose of the Study: As part of Miss Sieukaran’s Master’s thesis in Clinical Psychology, the aim of this study is to investigate factors that influence the protective effects of family meals.

Procedure: You are invited to complete a brief questionnaire package, which includes demographic information (e.g., gender, age) and measures of eating and weight behaviours. This will take about 20 minutes to complete. There will be no financial compensation.

Risks: There are no anticipated risks involved in this study. However, you may experience some discomfort from some of the questions because they are of a personal nature. Should you become highly distressed, please do not hesitate to stop participating and your data will not be included in the study.

Benefits: Participation in this study offers the opportunity to learn about psychology research and gain a heightened awareness of self.

Details Relating to Your Participation: Your participation is completely voluntary and you may withdraw from the study or not answer any question for any reason, at any time, including during the procedure, without any prejudice. Your decision not to volunteer or to refuse to answer particular questions will not influence your treatment during the study or the nature of your relationship with the researchers, Simon Fraser University or any other group associated with the project either now or in the future. In the event you withdraw from the study, all associated data collected will be immediately
destroyed. Your refusal to participate or your withdrawal of participation will have no adverse effects on your child’s grades or evaluation in the course or classroom.

Your confidentiality and anonymity will be protected. Your data will be saved using a numeric code instead of your name. This consent form will be kept separate from your questionnaire package. Only the investigators in this study will have access to your records. Paper files of your data and an electronic, password-protected data file (saved on a memory stick) will be safely stored in a secure file cabinet at all times. All data will be stored for the entire length of the study and kept for two years afterwards, at which time it will be destroyed.

If you have any questions or wish to obtain results of this study upon its completion, please contact Daniella Sieukaran at [redacted] or [redacted]. If you have concerns or complaints about this study, please contact Dr. Zaitsoff (primary contact) at [redacted] or [redacted], or Dr. Weinberg (secondary contact; contact information above).

I have read and understood the above details of this study, and I freely consent to participate.

Participant (Parent) Full Name: ______________________

Participant Signature: ______________________

Child’s Full Name: ______________________

Date (YYYY/MM/DD): ______________________
Appendix E

Parental/Guardian Informed Consent Form for Child’s Participation

This research is being conducted under the permission of the Burnaby School District #41 and the Simon Fraser University Research Ethics Board. The chief concern of the Ethics Board is for the health, safety and psychological well-being of participants. Should you wish to obtain information about your rights as a participant in research or the responsibilities of researchers, please contact Dr. Hal Weinberg, Director, Office of Research Ethics at xxxxxxxxxx or xxxxxxxxxx.

Study Title: A Positive Psychology Approach to Family Meals

Principal Investigator: Daniella Sieukaran, B.A. (Spec. Hons.), under the supervision of Shannon Zaitsoff, Ph.D.

Purpose of the Study: As part of Miss Sieukaran’s Master’s thesis in Clinical Psychology, the aim of this study is to investigate factors that influence the protective effects of family meals.

Procedure: Your child is invited to complete a brief questionnaire package, which includes demographic information (e.g., gender, age) and measures of eating and weight behaviours. This will take about 20 minutes to complete. Next, your child will be privately weighed and have his/her height measured by a researcher. The study will occur at your child’s school. There will be no financial compensation.

Risks: There are no anticipated risks involved in this study. However, your child may experience some discomfort from some of the questions because they are of a personal nature. Should your child become highly distressed, he/she will be advised to stop participating and his/her data will not be included in the study.

Benefits: Participation in this study offers the opportunity to learn about psychology research and gain a heightened awareness of self.

Details Relating to Your Participation: Your child’s participation is completely voluntary and your child may withdraw from the study or not answer any question for any reason, at any time, including during the procedure, without any prejudice. If your child refrains from participating, an alternate activity will be made available by the teacher. Your child’s decision not to volunteer or to refuse to answer particular questions will not influence his/her treatment during the study or the nature of his/her relationship with the
researchers, Simon Fraser University or any other group associated with the project either now or in the future. In the event your child withdraws from the study, all associated data collected will be immediately destroyed. Your refusal to allow your child to participate or withdrawal of participation will have no adverse effects on your child’s grades or evaluation in the course or classroom.

Your child’s confidentiality and anonymity will be protected. Your child’s data will be saved using a numeric code instead of his/her name. This consent form will be kept separate from his/her questionnaire package. Only the investigators in this study will have access to your child’s records. Paper files of your child’s data and an electronic, password-protected data file (saved on a memory stick) will be safely stored in a secure file cabinet at all times. All data will be stored for the entire length of the study and kept for two years afterwards, at which time it will be destroyed.

If you have any questions or wish to obtain results of this study upon its completion, please contact Daniella Sieukaran at [contact information] or [contact information]. If you have concerns or complaints about this study, please contact Dr. Zaitsoff (primary contact) at [contact information] or [contact information], or Dr. Weinberg (secondary contact; contact information above).

I have read and understood the above details of this study, and I freely consent for my child to participate in this study if he/she wishes to do so.

Child’s Full Name: ___________________

Parent/Guardian Signature: ___________________

Parent/Guardian’s Full Name: ___________________

Date (YYYY/MM/DD): ___________________
Appendix F

Informed Assent Form for Adolescent Participants

Informed Assent for Adolescent Participants

This research is being conducted under the permission of the Burnaby School District #41 and the Simon Fraser University Research Ethics Board. The chief concern of the Ethics Board is for the health, safety and psychological well-being of participants. Should you wish to obtain information about your rights as a participant in research or the responsibilities of researchers, please contact Dr. Hal Weinberg, Director, Office of Research Ethics at [phone number] or [phone number].

Study Title: A Positive Psychology Approach to Family Meals

Principal Investigator: Daniella Sieukaran, B.A. (Spec. Hons.), under the supervision of Shannon Zaltsoff, Ph.D.

Purpose of the Study: As part of Miss Sieukaran’s Master’s thesis in Clinical Psychology, the aim of this study is to investigate factors that influence the protective effects of family meals.

Procedure: You are invited to complete a brief questionnaire package, which includes demographic information (e.g., gender, age) and measures of eating and weight behaviours. This will take about 20 minutes to complete. Next, you will be privately weighed and have your height measured by a researcher. The study will occur at your school. There will be no financial compensation.

Risks: There are no anticipated risks involved in this study. However, you may experience some discomfort from some of the questions because they are of a personal nature. Should you become highly distressed, please do not hesitate to stop participating and your data will not be included in the study.

Benefits: Participation in this study offers the opportunity to learn about psychology research and gain a heightened awareness of self.

Details Relating to Your Participation: Your participation is completely voluntary and you may withdraw from the study or not answer any question for any reason, at any time, including during the procedure, without any prejudice. If you refrain from participating, an alternate activity will be made available for you by your teacher. Your decision not to volunteer or to refuse to answer particular questions will not influence your treatment during the study or the nature of your relationship with the researchers, Simon Fraser University or any other group associated with the project either now or in
the future. In the event you withdraw from the study, all associated data collected will be immediately destroyed. Refusal to participate or withdrawal of participation will have no adverse effects on grades or evaluation in the course or classroom.

Your confidentiality and anonymity will be protected. Your data will be saved using a numeric code instead of your name. This consent form will be kept separate from your questionnaire package. Only the investigators in this study will have access to your records. Paper files of your data and an electronic, password-protected data file (saved on a memory stick) will be safely stored in a secure file cabinet at all times. All data will be stored for the entire length of the study and kept for two years afterwards, at which time it will be destroyed.

If you have any questions or wish to obtain results of this study upon its completion, please contact Daniella Sieukaran at [telephone number] or [telephone number]. If you have concerns or complaints about this study, please contact Dr. Zaitsoff (primary contact) at [telephone number] or [telephone number], or Dr. Weinberg (secondary contact; contact information above).

I have read and understood the above details of this study, and I freely consent to participate.

Participant Full Name: __________________________

Participant Signature: __________________________

Date (YYYY/MM/DD): __________________________