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**The Age of Adolescence: Examining the Relationship Between Body Image and Mood in
Early Adolescence**

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Abstract

The current study sought to examine the relationship between body dissatisfaction and early adolescent mood with the intent of raising awareness and prevention, as well as intervention, when it comes to negative mental health and depressive mood in early adolescence. General self-worth acted as the outcome variable, examining body dissatisfaction, gender, and affect as potential predictor variables of lower general self-worth at the end of the school year. All measures were done through self-report questionnaires. Correlations were run to determine gender differences among the variables of interest and a hierarchical regression was done to account for change in general self-worth over the school year. Although general self-worth stayed consistent, the variables of interest were not deemed predictor variables of decreased general self-worth. With an increased awareness of intervention and prevention of body dissatisfaction and how it looks for both genders, growing through early adolescence has the potential to be less distressing for girls and boys, alike.

Keywords: body dissatisfaction, mood, affect, early adolescence

The Age of Adolescence: Examining the Relationship Between Body Image and Mood in Early Adolescence

An epidemic among youth, according to Maxwell and Cole (2012), body dissatisfaction has shown great prevalence in Western culture when it comes to early adolescents. Body dissatisfaction can be defined as the discrepancy between someone's satisfaction with their own perceived body and their ideal body (Maxwell & Cole, 2012; Paxton et al., 2006). Longitudinal evidence shows body dissatisfaction as a potential predictor variable of depressive mood and negative health and eating behaviors in children and adolescence, which could detrimentally harm a child's overall health, and could even be fatal, in some cases (Paxton et al., 2006); it can also be a great predictor of low self-esteem and low self-worth, both of which will be considered in this study.

There must also be consideration of how gender can affect the experience of developing low body dissatisfaction and how one reacts to such a development. On average, females undergo the onset of puberty much earlier than males, but both undergo several physical, cognitive, and socioemotional changes, taking nutritional and environmental aspects into account (Paxton et al., 2006; Maxwell & Cole, 2016). Consequentially, early adolescent females are faced with societal body ideals that emphasize the desire for a thin body type (Crocker et al., 2006). Young girls are also faced with the idea that their own bodies do not match what is commonly desired in society, potentially leading to the development of body dissatisfaction (Crocker et al., 2006; Paxton et al., 2006). Paxton et al. (2006) points out that the onset of puberty comes with increased self-awareness and increased capacity for self-reflection, and that through longitudinal research, revealed that body dissatisfaction is more prominent in early adolescent girls than later in their adolescent years. McLean et al. (2022) supports this finding in

their study that found significantly higher levels of body dissatisfaction in adolescent girls than adolescent boys, although they did not find that girls had any significance in depressive symptoms compared to boys. They did, however, discover that girls were at higher risk for a possible or probable major depressive episode in comparison to boys, indicating that body dissatisfaction in girls negatively impacted their mood.

On the other hand, boys have been found to be more greatly affected by body dissatisfaction later in adolescence than girls (Paxton et al., 2006), which could be due to a variety of reasons. First, boys tend to experience a later onset of puberty than girls, resulting in a later awareness of the self and a mix of societal male body ideals, between being thin and lean or being bigger and more muscular (Paxton et al., 2006). Holsen et al. (2001) found that body dissatisfaction predicted depressive mood later in adolescence for boys than girls, supporting this idea that adolescent boys are at greater risk of experiencing body dissatisfaction later. McLean et al. (2022) also supports this by finding that increased levels of body dissatisfaction occurred in adolescent girls aged 12 and 13, but in adolescent boys aged 13 and 14. Maxwell and Cole (2016) stressed that although it is delayed, the negative outcomes are just as important and deserve the same amount of attention in boys as girls, as body dissatisfaction in males has been highly neglected throughout history.

Boys and girls, alike, the consistency of body dissatisfaction between the two lies in the negative psychological outcomes that come with it, including immediate distress, hindered self-esteem, and depressive mood (Paxton et al., 2006). Body dissatisfaction is also highly associated with the development of restrictive and binge-eating behaviors, as well as purging, in children and adolescents, which can lead to greater psychological distress (Maxwell & Cole 2016). McLean et al. (2022) found that adolescents who experienced higher levels of body

dissatisfaction also experienced depressive symptoms that varied in severity, with numbers higher in girls than boys, and that this also coincided with disordered and restrictive eating behaviors. Maxwell and Cole (2016) found it important to point out that not all adolescents that experience body dissatisfaction develop maladaptive health behaviors or negative psychological outcomes, such as clinical eating disorders, and suggested that the awareness of body dissatisfaction is more of a spectrum and that there are a variety of ways people cope with body dissatisfaction. Looking at this variety can be essential to raising that awareness and increasing the common knowledge of the everyday experience body dissatisfaction can ensue.

Another important aspect to consider when determining how adolescents are affected by body dissatisfaction is their own perceived self-concept, including self-worth and self-esteem. Self-esteem is defined as one's thoughts and feelings of their own self-worth, and self-worth and self-esteem are also partnered in that higher self-esteem tends to be associated with a greater and more positive sense of general self-worth (Coffee & Warren, 2020). General self-worth has been defined as one's feelings about themselves and their potential (Coffey & Warren, 2020). Self-esteem and self-worth also seem to be considered critical to healthy development and are greatly focused on positive feelings about the self, which can lead to positive affect or mood. During adolescence, many individuals are faced with a heightened sense of self-consciousness and have a much greater need to understand who they are, using self-esteem as an anchor to successfully adapt to these drastic changes in the self. Coffey and Warren (2020) studied the implications low self-esteem has in adult life, and in their preliminary research found longitudinal evidence for low or decreasing self-esteem in adolescence being associated with the prevalence of depressive symptoms in adulthood (Steiger et al., 2014). They were able to conclude that higher levels of

self-esteem in adolescence were associated with greater life satisfaction in adulthood through their own data collection.

Physical self-concept has also been attributed to body dissatisfaction and can be defined as someone's satisfaction with their appearance and weight, as well as having confidence in their physical capabilities (McGregor et al., 2020). As discussed before, males and females have been shown to experience some form of body dissatisfaction, although many sources support more prevalence among females (Crocker et al., 2006; McLean et al., 2022; Paxton et al., 2006). McGregor et al. (2020) point out however, that males have a much greater variability in how they could be potentially dissatisfied with their bodies, making it more difficult to examine than females, leading to a gap in the research that this study aims to explore. By exploring gender in this study, I can look at the potential predictor variable of higher body dissatisfaction in both adolescent boys and girls, determining if specific moods are more predictive of body dissatisfaction in one compared to other.

The Current Study

The purpose of the current study was to examine the relationship between body image and mood in early adolescence over the course of the school year, identifying any possible predictors that may contribute to the directionality of the relationship. I hypothesized that, controlling for general self-worth at the beginning of the school year, adolescents' sense of body dissatisfaction would be a predictor of a decrease in general self-worth by the end of the school year. I also hypothesized that there would be a significant relationship between body dissatisfaction and general self-worth in boys, such that boys with higher body dissatisfaction would experience lower general self-worth by the end of the school year.

Method

Participants

Participants included 182 early adolescents (52.2 % male, 47.8% female) in the fifth and sixth grades ($M_{age} = 10.67$, $SD_{age} = 0.55$), and were randomly chosen from one of two public schools in Montreal, Quebec, Canada. Some participants were native French speakers, but all understood and attended classes in English. Permission for data collection from the school board officials and school principals was obtained, as well as parents' and participants' consent.

Procedure

This study was part of a larger project that examined the health of early adolescents over the school year. Participants completed 13 total questionnaires, each a different point of data collection, throughout the school year, and were completed in a one-hour period in the students' homeroom classes. Mood data was obtained throughout the school year, while perceived body type, body preference, and body dissatisfaction were measured at the beginning of the school year; general self-worth was measured at both the beginning and the end of the school year.

Measures

Body Dissatisfaction

Body dissatisfaction was measured through giving participants a diagram (one for boys and one for girls, responding to their same gender) of seven body sizes ranging from smallest to largest. Participants responded to which picture they perceived they looked like and which picture they wanted to look like. Body dissatisfaction was calculated by subtracting participant's preferred body from their perceived body.

Affect

Affect was measured through giving participants a questionnaire six times throughout the school year in which they responded to the prompt, "In the last 7 days I have felt..." and were

given various moods (i.e., “Happy”, “Calm”, “Worried”, “Angry”, “Sad”, “Depressed”, “Content”, “Tired”). Participants responded using a 5-point Likert scale anchored by 1 (*not at all*), 2 (*a little*), 3 (*somewhat*), 4 (*a lot*), 5 (*extremely*). Affect was calculated by averaging across variables of interest.

Self-Worth

General self-worth was measured and observed at the beginning of the school year and at the end of the school year using a revised version of the Perceived Competence Scale for Children (Harter, 1982). Nine items (e.g., “I am happy with who I am”) were assessed with a questionnaire in which participants responded using a 5-point Likert scale anchored by 1 (*really disagree*), 2 (*disagree*), 3 (*neither agree nor disagree*), 4 (*agree*), 5 (*really agree*). Higher scores were indicative of higher self-worth. General self-worth demonstrated good reliability at the beginning of the school year ($\alpha = .78$) and great reliability at the end of the school year ($\alpha = .86$).

Results

Preliminary Analyses

All analyses for this study were done using SPSS. Descriptive statistics of participants were obtained (Table 1).

Independent sample *t*-tests were run to determine gender differences in the variables of interest (Table 2). On average, girls reported significantly lower body dissatisfaction ($M = -0.45$, $SD = 0.86$) than boys ($M = -0.18$, $SD = 0.89$), $t(175) = 2.05$, $p < .05$. Girls also reported marginally significantly more sad mood ($M = 2.01$, $SD = 0.86$) than boys ($M = 1.78$, $SD = 0.70$), $t(129) = -1.74$, $p < .10$. On average, girls reported being significantly more tired ($M = 2.91$, $SD = 0.98$) than boys ($M = 2.55$, $SD = 0.97$) throughout the school year, $t(131) = -2.09$, $p < .05$.

Correlations were run to test for relationships among the variables of interest (Table 3). There was a significant positive correlation between general self-worth at the end of the school year and general self-worth at the beginning of the school year, such that higher levels of general self-worth at the end of the school year were associated with higher levels of general self-worth at the beginning of the school year, $r(137) = .52, p < .05$. There was a significant positive correlation between general self-worth at the end of the school year and average calm mood, such that higher levels of general self-worth at the end of the school year were associated with higher levels of calm mood throughout the school year, $r(123) = .23, p < .05$. There was a significant negative correlation between general self-worth at the end of the school year and average worried mood, such that higher levels of general self-worth at the end of the school year were associated with lower levels of worried mood throughout the school year, $r(123) = -.27, p < .05$. There was a marginally significant negative correlation between general self-worth at the end of the school year and average angry mood, such that higher levels of general self-worth were associated with lower levels of angry mood throughout the school year, $r(123) = -.17, p < .10$. There was a significant negative correlation between general self-worth at the end of the school year and average sad mood, such that higher levels of general self-worth at the end of the school year were associated with lower levels of sad mood throughout the school year, $r(121) = -.20, p < .05$. There was a significant negative correlation between general self-worth at the end of the school year and average depressed mood, such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of depressed mood throughout the school year, $r(117) = -.27, p < .05$. There was a significant positive correlation between general self-worth at the end of the school year and average content mood, such that higher levels of general self-worth at the beginning of the school year were associated with higher levels of

content mood throughout the school year, $r(118) = .29, p < .05$. There was a significant negative correlation between general self-worth at the end of the school year and average tired mood, such that higher levels of general self-worth at the end of the school year were associated with lower levels of tired mood throughout the school year, $r(122) = -.22, p < .05$.

There was a significant negative correlation between general self-worth at the beginning of the year and participants' perceived body, such that participants who perceived themselves smaller had a greater sense of general self-worth at the beginning of the school year, $r(145) = -.17, p < .05$. There was a significant positive correlation between general self-worth at the beginning of the school year and body dissatisfaction, such that higher levels of general self-worth at the beginning of the school year were associated with higher levels of body dissatisfaction, $r(143) = .20, p < .05$. There was a marginally significant positive correlation between general self-worth at the beginning of the school year and average calm mood, such that higher levels of general self-worth at the beginning of the school year were associated with higher levels of calm mood throughout the school year, $r(109) = .17, p < .10$. There was a significant negative correlation between general self-worth at the beginning of the school year and average worried mood, such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of worried mood throughout the school year, $r(110) = -.20, p < .05$. There was a significant negative correlation between general self-worth at the beginning of the school year and average angry mood, such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of angry mood throughout the school year, $r(107) = -.29, p < .05$. There was a significant negative correlation between general self-worth at the beginning of the school year and average depressed mood, such that higher levels of general self-worth were associated with lower levels of depressed

mood throughout the school year, $r(101) = -.26, p < .05$. There was a significant positive correlation between general self-worth at the beginning of the school year and average content mood, such that higher levels of general self-worth at the beginning of the school year were associated with higher levels of content mood throughout the school year, $r(104) = .22, p < .05$. There was a significant negative correlation between general self-worth at the beginning of the school year and average tired mood, such that higher levels of general self-worth were associated with lower levels of tired mood throughout the school year, $r(109) = -.27, p < .05$.

There was a significant positive correlation between participants' preferred body and perceived body, such that participants that perceived themselves as smaller also preferred to be smaller, $r(175) = .50, p < .05$. There was a significant positive correlation between participants' preferred body and body dissatisfaction, such that participants who wanted to look smaller also had lower body dissatisfaction, $r(175) = .27, p < .05$. There was a significant positive correlation between participants' preferred body and average content mood, such that participants who perceived themselves larger also had higher levels of content mood throughout the school year, $r(123) = .19, p < .05$.

There was a significant negative correlation between participants' perceived body and body dissatisfaction, such that participants who perceived themselves smaller had more body dissatisfaction, $r(175) = -.70, p < .05$. There was a significant positive correlation between participants' perceived body and average tired mood, such that participants who perceived themselves larger also reported higher levels of tired mood throughout the school year, $r(130) = .26, p < .05$.

There was a significant negative correlation between body dissatisfaction and average angry mood, such that higher levels of body dissatisfaction were associated with lower levels of

angry mood throughout the school year, $r(128) = -.22, p < .05$. There was a marginally significant negative correlation between body dissatisfaction and average depressed mood, such that higher levels of body dissatisfaction were associated with lower levels of depressed mood throughout the school year, $r(122) = -.16, p < .10$. There was a marginally significant positive correlation between body dissatisfaction and average calm content mood, such that higher levels of body dissatisfaction were associated with higher levels of content mood throughout the school year, $r(123) = .17, p < .10$. There was a significant negative correlation between body dissatisfaction and average tired mood, such that higher levels of body dissatisfaction were associated with lower levels of tired mood throughout the school year, $r(128) = -.27, p < .05$.

There was a significant negative correlation between average calm mood and average angry mood, such that higher levels of calm mood were associated with lower levels of angry mood throughout the school year, $r(129) = -.27, p < .05$. There was a significant negative correlation between average calm mood and average depressed mood, such that higher levels of calm mood were associated with lower levels of depressed mood throughout the school year, $r(122) = -.18, p < .05$. There was a significant positive correlation between average calm mood and average content mood, such that higher levels of calm mood were associated with higher levels of content mood throughout the school year, $r(125) = .22, p < .05$.

There was a significant positive correlation between average worried mood and average angry mood, such that higher levels of worried mood were associated with higher levels of angry mood throughout the school year, $r(130) = .53, p < .05$. There was a significant positive correlation between average worried mood and average sad mood, such that higher levels of worried mood were associated with higher levels of sad mood throughout the school year, $r(128) = .72, p < .05$. There was a significant positive correlation between average worried mood and

average depressed mood, such that higher levels of worried mood were associated with higher level of depressed mood throughout the school year, $r(124) = .67, p < .05$. There was a marginally significant negative correlation between average worried mood and average content mood, such that higher levels of worried mood were associated with lower levels of content mood throughout the school year, $r(125) = -.17, p < .10$. There was a significant positive correlation between average worried mood and average tired mood, such that higher levels of worried mood were associated with higher levels of tired mood throughout the school year, $r(129) = .33, p < .05$.

There was a significant positive correlation between average angry mood and average sad mood, such that higher levels of angry mood were associated with higher levels of sad mood throughout the school year, $r(128) = .60, p < .05$. There was a significant positive correlation between average angry mood and average depressed mood, such that higher levels of angry mood were associated with higher levels of depressed mood throughout the school year, $r(124) = .62, p < .05$. There was a significant negative correlation between average angry mood and average content mood, such that higher levels of angry mood were associated with lower levels of content mood throughout the school year, $r(124) = -.18, p < .05$. There was a significant positive correlation between average angry mood and average tired mood, such that higher levels of angry mood were associated with higher levels of tired mood throughout the school year, $r(129) = .47, p < .05$.

There was a significant positive correlation between average sad mood and average depressed mood, such that higher levels of sad mood were associated with higher levels of depressed mood throughout the school year, $r(122) = .68, p < .05$. There was a significant negative correlation between average sad mood and average content mood, such that higher

levels of sad mood were associated with lower levels of content mood throughout the school year, $r(123) = -.19, p < .05$. There was a significant positive correlation between average sad mood and average tired mood, such that higher levels of sad mood were associated with higher levels of tired mood throughout the school year, $r(127) = .40, p < .05$.

There was a significant negative correlation between average depressed mood and average content mood, such that higher levels of depressed mood were associated with lower levels of content mood throughout the school year, $r(121) = -.27, p < .05$. There was a significant positive correlation between average depressed mood and average tired mood, such that higher levels of depressed mood were associated with higher levels of tired mood throughout the school year, $r(122) = .42, p < .05$.

There was a significant negative correlation between average content mood and average tired mood, such that higher levels of content mood were associated with lower levels of tired mood throughout the school year, $r(123) = -.27, p < .05$.

Correlations were run to test for relationships among the variables of interest and split by gender (Table 4). There was a marginally significant negative correlation between general self-worth at the end of the school year and perceived body in girls, such that higher levels of general self-worth at the end of the school year were associated with girls who perceived themselves smaller, $r(76) = -.19, p < .10$; there was not a significant correlation for boys. There was a significant positive correlation between general self-worth at the end of the school year and average calm mood in girls, such that higher levels of general self-worth at the end of the school year were associated with higher levels of calm mood throughout the school year, $r(59) = .37, p < .05$; there was not a significant correlation for boys. There was a marginally significant negative correlation between general self-worth at the end of the school year and average angry

mood for boys, such that higher levels of general self-worth at the end of the school year were associated with lower levels of angry mood throughout the school year, $r(60) = -.22, p < .10$; there was not a significant correlation for girls. There was a marginally significant negative correlation between general self-worth at the end of the school year and average sad mood for boys, such that higher levels of general self-worth at the end of the school year were associated with lower levels of sad mood throughout the school year, $r(60) = -.24, p < .10$; there was not a significant correlation for girls. There was a significant negative correlation between general self-worth at the end of the school year and average tired mood for boys, such that higher levels of general self-worth at the end of the school year were associated with lower levels of sad mood throughout the school year, $r(60) = -.25, p < .05$; there was not a significant correlation for girls.

There was a significant negative correlation between general self-worth at the beginning of the school year and perceived body for girls, such that higher levels of general self-worth at the beginning of the school year were associated with girls who perceived themselves smaller, $r(68) = -.29, p < .05$; there was not a significant correlation for boys. There was a significant positive correlation between general self-worth at the beginning of the school year and average calm mood for girls, such that higher levels of general self-worth at the beginning of the school year were associated with higher levels of calm mood throughout the school year, $r(52) = .32, p < .05$; there was not a significant correlation for boys. There was a significant negative correlation between general self-worth at the beginning of the school year and average worried mood for boys, such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of worried mood throughout the school year, $r(54) = -.27, p < .05$; there was not a significant correlation for girls. There was a significant negative correlation between general self-worth at the beginning of the school year and average angry mood for boys,

such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of angry mood throughout the school year, $r(52) = -.39, p < .05$; there was not a significant correlation for girls. There was significant negative correlation between general self-worth at the beginning of the school year and average depressed mood for boys, such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of depressed mood throughout the school year, $r(50) = -.34, p < .05$; there was not a significant correlation for girls. There was a marginally significant positive correlation between general self-worth at the beginning of the school year and average content mood for boys, such that higher levels of general self-worth at the beginning of the school year were associated with higher levels of content mood throughout the school year, $r(52) = .23, p < .10$; there was not a significant correlation for girls. There was a significant negative correlation between general self-worth at the beginning of the school year and average tired mood, such that higher levels of general self-worth at the beginning of the school year were associated with lower levels of tired mood throughout the school year, $r(54) = -.34, p < .05$; there was not a significant correlation for boys.

There was a marginally significant positive correlation between body preference and average content mood for girls, such that the smaller girls preferred to be was associated with lower levels of content mood throughout the school year, $r(61) = .23, p < .10$; there was not a significant correlation for boys. There was a marginally significant positive correlation between body preference and average tired mood for boys, such that the larger the boys preferred to be was associated with higher levels of tired mood throughout the school year, $r(61) = .21, p < .10$; there was not a significant correlation for girls.

There was a significant positive correlation between perceived body and average angry mood for boys, such that boys who perceived themselves larger were associated with higher levels of angry mood throughout the school year, $r(63) = .35, p < .05$; there was not a significant correlation for girls. There was a significant positive correlation between perceived body and average tired mood for boys, such that boys who perceive themselves larger were associated with lower levels of tired mood throughout the school year, $r(63) = .29, p < .05$; there was not a significant correlation for girls.

There was a marginally significant negative correlation between body dissatisfaction and average calm mood for girls, such that higher levels of body dissatisfaction were associated with lower levels of calm mood throughout the school year, $r(63) = -.21, p < .10$; there was not a significant correlation for boys. There was a significant negative correlation between body dissatisfaction and average angry mood for boys, such that higher levels of body dissatisfaction were associated with lower levels of angry mood throughout the school year, $r(61) = -.33, p < .05$; there was not a significant correlation for girls. There was a marginally significant negative correlation between body dissatisfaction and average sad mood for boys, such that higher levels of body dissatisfaction were associated with lower levels of sad mood throughout the school year, $r(62) = -.21, p < .10$; there was not a significant correlation for girls. There was a marginally significant negative correlation between body dissatisfaction and average depressed mood for boys, such that higher levels of body dissatisfaction were associated with lower levels of depressed mood throughout the school year, $r(58) = -.21, p < .05$; there was not a significant correlation for girls. There was a marginally significant positive correlation between body dissatisfaction and average content mood for girls, such that higher levels of body dissatisfaction were associated with higher levels of content mood throughout the school year, $r(61) = .22, p <$

.10; there was not a significant correlation for boys. There was a significant negative correlation between body dissatisfaction and average tired mood for girls, such that higher levels of body dissatisfaction were associated with lower levels of tired mood throughout the school year, $r(65) = -.30, p < .05$; there was not a significant correlation for boys.

There was a significant negative correlation between average depressed mood and average calm mood for boys, such that higher levels of depressed mood were associated with lower levels of calm mood throughout the school year, $r(60) = -.33, p < .05$; there was not a significant correlation for girls.

There was a significant negative correlation between average content mood and average worried mood for girls, such that higher levels of content mood were associated with lower levels of worried mood throughout the school year, $r(62) = -.36, p < .05$; there was not a significant correlation for boys. There was a significant negative correlation between average content mood and average and average angry mood for girls, such that higher levels of content mood were associated with lower levels of angry mood throughout the school year, $r(62) = -.29, p < .05$; there was no correlation for boys. There was a significant negative correlation between average content mood and average sad mood for girls, such that higher levels of content mood were associated with lower levels of sad mood throughout the school year, $r(60) = -.37, p < .05$; there was not a correlation for boys. There was a significant negative correlation between average content mood and average depressed mood for girls, such that higher levels of content mood were associated with lower levels of depressed mood throughout the school year, $r(60) = -.38, p < .05$; there was not a correlation for boys.

There was a significant negative correlation between average tired mood and average content mood for girls, such that higher levels of tired mood for girls were associated with lower

levels of content throughout the school year, $r(62) = -.40, p < .05$; there was not a significant correlation for boys.

Hierarchical Regression Predicting Change in General Self-Worth

A hierarchical regression was run to predict change in general self-worth over the school year (Table 5). The full model was significant and accounted for 34% of the variance in general self-worth, $R^2 = .34, F(10, 81) = 4.10, p < .05$. The first block was significant with 28% of the variance in general self-worth at the end of the school year accounted for by general self-worth at the beginning of the school year, $\Delta R^2 = .28, \Delta F(1, 90) = 35.78, p < .05$. General self-worth at the beginning of the school year was a significant positive predictor of general self-worth at the end of the school year, such that high levels of general self-worth at the beginning of the school year were associated with higher levels of general self-worth at the end of the school year, $\beta = .53, t(90) = 5.98, p < .05$. The second block was not significant, with the addition of gender not accounting for a significant amount of additional variance in general self-worth at the end of the school year, $\Delta R^2 = .00, \Delta F(1, 89) = 0.53, p > .05$. The third block was not significant, with the addition of body dissatisfaction not accounting for a significant amount of additional variance in general self-worth at the end of the school year, $\Delta R^2 = .00, \Delta F(1, 88) = 0.25, p > .05$. The fourth block was not significant, with the addition of affect not accounting for a significant amount of additional variance in general self-worth at the end of the school year, $\Delta R^2 = .05, \Delta F(1, 81) = 0.79, p > .05$.

Discussion

The purpose of the current study was to examine the relationship between body image and mood in early adolescence over the course of the school year, specifically with measures of body dissatisfaction and general self-worth. I hypothesized that, controlling for initial levels of

general self-worth, body dissatisfaction would be a significant negative predictor of general self-worth at the end of the school year. My hypothesis was not supported, and body dissatisfaction was not deemed a predictive risk factor for a decreased sense of general self-worth in adolescence for girls or boys.

When accounting for gender, there were significant differences that prevailed. Boys who had greater body dissatisfaction were angrier, while there was no significant correlation between angry mood and body dissatisfaction for girls. Boys who perceived their body larger also reported more angry mood; anger in boys was also correlated with lower levels of general self-worth. Girls who perceived their body as smaller had a greater sense of self-worth, while there was no significant correlation between self-worth and body dissatisfaction for boys. The current study suggested that there was not a significant relationship between boys' body dissatisfaction and their general self-worth, which did not support my initial hypothesis. Also noteworthy is the marginally significant negative correlation between girls' perceived body and happy mood, such that their perceived body being smaller was related to happier mood. Interestingly, girls' happy mood was also positively correlated to higher body dissatisfaction.

Holsen et al. (2001) examined the effects of depressed mood on body image, a mirror of my own study, and did not find any support behind a causal relationship between depressed mood and body image, although there seemed to be an extensive number of correlations between general self-worth and average mood. For example, higher levels of general self-worth were associated with higher levels of content mood, while higher levels of general self-worth were also associated with lower levels of depressed, worried, sad, etc. moods. It should also be noted that many participants were likely experiencing more than one negative mood, (i.e., tired and depressed, worried and angry, etc.), as there can be high stability in negative affect (Coffey &

Warren, 2020). Positive affect tends to set children and adolescents up for success in many aspects of their development, including their self-esteem, as Coffey and Warren (2020) stress that there is an immense overlap in the two, especially in someone whose identity is still forming. Researchers from this study emphasize that parents should take precaution in promoting self-esteem in a way that instills positive affect, as positive affect can be experienced separately from the self, thus having very different long-term consequences. There is evidence from the study that supported the idea that adolescents who had a great sense of self-esteem and self-worth tended to have greater positive affect. This was also correlated to their success in real life and in their adult lives, such as with their peers and teachers, as well as everyday problem-solving skills and problem solving in risky situations, such as the opportunity to do drugs or drink alcohol (Coffey & Warren). Therefore, parents could use their role to instill positive affect in more areas of their child's life to promote its stability into their views of themselves, including their body image.

One of the limitations in this study was found in the lack of diversity, as the data came from only one school district in one province of Canada, which majorly focuses on the Western culture's emphasis on physical appearance. Future studies should continue to explore how negative affect can be detrimental to the development of adolescents' sense of self, specifically their body image, in other cultures, accounting for how various cultures view the concept of body image. This study could be also expanded by using Harter's Perceived Competence Scale for Adolescents, which accounts for physical appearance; this study used the children's scale, which does not take physical appearance into consideration. Also not taken into consideration was muscle mass and muscle-to-fat ratio, as the depiction in the diagrams only account for size; an expansion of this study should seek out more realistic body depictions that account for both

size and muscle mass. One final limitation I will highlight is a lack of data in more than two genders. Since the data used in this study only consists of binary genders, the only two genders examined in this study were male and female; thus, the research analysis only consisted of data involving male and female demographics. An expansion of this would include considering all genders.

Overall, understanding body dissatisfaction and the variety of ways it can display itself is vital in learning which prevention strategies are useful and which intervention techniques are necessary. Hart et al. (2015) discusses the gap in research that is the parental role when it comes to how a child develops a sense of body dissatisfaction. Intervention programs showed improvements in the children who showed body dissatisfaction and negative health behaviors prior to the intervention (i.e., bingeing and purging, extreme fasting, etc.), but researchers were still unable to attribute any of the improvements, if any at all, to the parents' involvement (Hart et al., 2015). Being critical of the child's weight and eating habits, as well as instilling pressure to be thin from parents are behaviors that Hart et al. (2015) suggested could be potential areas for future research. Alluding to the finding that girls experience body dissatisfaction and the negative effects earlier than boys (McLean et al., 2022; Paxton et al., 2006), the timing of intervention may be needed earlier for adolescent girls than adolescent boys; this also means that boys should be receiving earlier intervention, as well, to ensure that both are given equal chances of proper development. Perhaps an increased awareness in how parents talk about their own bodies in front of their children, as well as learning how to speak about and embrace their child's growing body could be the most essential prevention technique to come from this area of research.

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Table 1

<i>Descriptive Statistics for Variables of Interest</i>					
	<i>N</i>	<i>M</i>	<i>SD</i>	Minimum	Maximum
General Self-Worth Time 2	168	1.33	5.00	3.75	0.70
General Self-worth Time 1	150	1.67	5.00	3.86	0.63
Body Preference	177	1.00	5.00	3.41	0.73
Perceived Body	179	1.00	7.00	3.72	0.98
Body Dissatisfaction	177	-3.00	2.00	-0.31	0.89
Average Calm Mood	134	1.33	5.00	3.25	0.73
Average Worried Mood	135	1.00	5.00	1.92	0.75
Average Angry Mood	133	1.00	4.33	2.07	0.81
Average Sad Mood	131	1.00	5.00	1.89	0.79
Average Depressed Mood	126	1.00	5.00	1.66	0.84
Average Content Mood	128	1.00	5.00	3.37	0.95
Average Tired Mood	133	1.00	5.00	2.73	0.99

Table 2*Gender Differences in Variables of Interest*

	Girls		Boys		<i>df</i>	<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
General Self-Worth Time 2	3.75	0.79	3.80	0.69	148	-1.17
General Self-Worth Time 1	3.92	0.55	3.75	0.62	166	0.01
Body Preference	3.32	0.76	3.49	0.71	175	1.52
Perceived Body	3.78	1.03	3.66	0.94	177	-0.73
Body Dissatisfaction	-0.45	0.86	-0.18	0.89	175	2.05
Average Calm Mood	3.30	0.67	3.21	0.78	132	-0.69
Average Worried Mood	1.97	0.80	1.87	0.70	133	-0.73
Average Angry Mood	2.17	0.88	1.97	0.71	127.74	-1.42
Average Sad Mood	2.01	0.86	1.77	0.70	129	-1.74
Average Depressed Mood	1.71	0.97	1.62	0.68	113.50	-0.57
Average Content Mood	3.45	0.88	3.29	1.02	126	-0.96
Average Tired Mood	2.91	0.98	2.55	0.97	131	-2.09

⁺*p* < .10. **p* < .05. ***p* < .01.

Table 3*Correlations Among Variables of Interest*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. General Self-Worth Time 2	-											
2. General Self-Worth Time 1	.52**	-										
3. Body Preference	-.01	.01	-									
4. Perceived Body	-.09	-.17*	.50**	-								
5. Body Dissatisfaction	.10	.20*	.27**	-.70**	-							
6. Average Calm Mood	.23**	.17 ⁺	-.06	.04	-.08	-						
7. Average Worried Mood	-.27**	0.20*	-.01	-.02	.01	-.07	-					
8. Average Angry Mood	-.17 ⁺	-.29**	-.06	.14	-.22*	-.27**	.53**	-				
9. Average Sad Mood	-.20*	-.13	-.10	.05	-.14	.00	.72**	.60**	-			
10. Average Depressed Mood	-.27**	-.26**	-.06	.08	-.16 ⁺	-.18*	.67**	.62**	.68**	-		
11. Average Content Mood	.29**	.22*	.19*	-.02	.17 ⁺	.22*	-.17 ⁺	-.18*	-.19**	-.27**	-	
12. Average Tired Mood	-.22*	-.27**	.04	.26**	-.27**	.03	.33*	.47**	.40**	.42**	-.27**	-

⁺ $p < .10$. * $p < .05$. ** $p < .01$.

Table 4*Correlations Among Variables of Interest Split by Gender*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. General Self-Worth Time 2	-	.60**	-.08	-.19 ⁺	.17	.37**	-.27*	-.13	.16	-.30*	.27*	-.19
2. General Self-Worth Time 1	.48**	-	-.10	-.29*	.25*	.32*	-.13	-.26	-.20	-.21	.24	-.34*
3. Body Preference	.07	.11	-	.57**	.19 ⁺	-.14	-.03	-.16	-.11	-.14	.23 ⁺	-.09
4. Perceived Body	.04	-.10	.45**	-	-.70**	.08	-.07	-.03	-.05	.00	-.03	.19
5. Body Dissatisfaction	.02	.19 ⁺	.32**	-.71**	-	-.21 ⁺	.06	-.10	-.03	-.12	.22 ⁺	-.30*
6. Average Calm Mood	.11	.06	.01	-.02	.05	-	-.12	-.26*	-.07	-.07	.21 ⁺	-.04
7. Average Worried Mood	-.26*	-.27*	.04	.03	-.02	-.03	-	.52**	.75**	.74**	-.36**	.29*
8. Average Angry Mood	-.22 ⁺	-.39**	.08	.35**	-.33**	-.30*	.54**	-	.62**	.58**	-.29*	.45**
9. Average Sad Mood	-.24 ⁺	-.08	-.09	.12	-.21 ⁺	.06	.68**	.54**	-	.76**	-.37**	.36**
10. Average Depressed Mood	-.22 ⁺	-.34*	.06	.19	-.21 ⁺	-.33**	.56**	.71**	.56**	-	-.38**	.36**
11. Average Content Mood	.33*	.23 ⁺	.15	-.04	.17	.21 ⁺	.02	-.08	-.04	-.15	-	-.40**
12. Average Tired Mood	-.25*	-.22	.21 ⁺	.29*	-.18	.09	.37**	.48**	.44*	.53**	-.18	-

Note. Correlations among boys are depicted below the diagonal, while correlations among girls are depicted above the diagonal.

⁺ $p < .10$. * $p < .05$. ** $p < .01$.

Table 5*Hierarchical Regression Predicting Change in General Self-Worth*

Model	<i>b</i>	<i>SE</i>	<i>t</i>	β	<i>F</i>	<i>R</i> ²	ΔF	ΔR ²
Block 1					35.78	.28	35.78**	.28
General Self-Worth Time 1	.58	0.10	5.98**	.53				
Block 2					18.06	.29	0.53	.00
Gender	-.04	0.06	-0.73	-.07				
Block 3					12.02	.29	0.25	.00
Body Dissatisfaction	-.03	0.06	-0.50	-.05				
Block 4					4.10	.34	0.79	.05
Average Calm Mood	.09	0.09	0.99	.10				
Average Worried Mood	-.12	0.12	-1.04	-.15				
Average Angry Mood	.10	0.13	0.79	.12				
Average Sad Mood	.08	0.14	0.60	0.10				
Average Depressed Mood	-.10	0.13	-0.81	-.13				
Average Content Mood	.08	0.08	1.07	.11				
Average Tired Mood	.02	.08	0.21	.02				

Note. Dependent variable is General Self Worth Time 2.

+ $p < .10$. * $p < .05$. ** $p < .01$.