

Gendered Differences in Adolescent Body Image: Youth Agency, Protective and Risk Factors

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ABSTRACT. This research examined youth agency and the micro-meso system environments (protective and risks) as they shaped adolescents' body image. National data from 11,531 students (Grades 5-10) in the Health Behavior in School Aged Children survey (2009-2010) and commentaries from six education/health professionals were used. As predicted by the Iowa and Chicago Schools of Self Concept, parental figure protected youth against negative body image by shielding them against school bullying. But, the protection and risks associated with youth agency and the micro-meso systems were gendered and operated differently for male and female youth. Female negative body image models were more complex in the salience of protective and risk factors than male models. These findings added to the literature on adolescent health and endorsed the need for wrap-around role modeling and protection for adolescents.

INTRODUCTION

Body image, feelings about the way one looks and feels about oneself, can be positive and/or negative. These days, a beautiful body is defined as thin, in-shape, and muscular, an image that only a few can live up to. In order to live up to these unrealistic ideals, dieting and even life-changing surgeries are choices many teens make to alter and deal with their perceived body image. Consequently, negative body image and related health issues have become problematic for adolescents and teenagers, particularly females.

Though health and body image are ultimately an individual choice, external factors also impact adolescents' images of their bodies. Television shows, movies, music, advertisements, magazines, and other social institutions play a large role in shaping views about ideal body image. According to a middle school counselor interviewed for this research (Interviewee #1), a significant portion of the student body, boys and girls have negative body image especially because "students at middle school are in such an incredibly wide range of pre-adolescent/adolescent physical and mental development, coupled with the need/drive to be accepted or be part of a group." Adolescents are at a

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stage where their bodies are largely changing and developing, and outside influences play a large role in shaping how they grow over time. A school psychologist/behavior specialist (Interviewee #2) who was asked to comment on adolescent body image added, "I see body image as a characteristic on a large spectrum, where one end is an inflated sense of self and the other being such disordered thinking [that] it may result in body dysmorphic disorder. I imagine there is a healthy balance in the middle somewhere, but most adolescents lean toward a negative body image at some point.

An important dimension of adolescent body image is its gendered nature. Researchers and practitioners have spoken about female body image, centering more on dissatisfaction and other negative body image aspects. More recently, body image of males have also been given attention, especially in the age of social media and other influencing factors.

Although there are many social service agencies, help hotlines, and campaigns that promote positive body image, many adolescents and teenagers continue to struggle with negative body image problems. These issues not only affect adolescent health, but also extend to relationship problems with family, friends, and society. There is an urgent need to find evidence based solutions to promote positive health amongst youth, for both males and females. The search for pathways to better health will have to include understanding the critical social pathways to the development of health related behaviors and attitudes in early adolescence (Iannotti 2009).

LITERATURE REVIEW

A review of some of the research on body image issues, particularly among youth, has identified the gendered nature of the problem. Youth agency, parents, classmates, and friends have been noted to both protect and aggravate body perceptions.

Adolescent Agency and Gendered Body Image

At one level, body dissatisfaction is largely due to negative body image thinking by adolescents themselves. Meland, Haughland, and Breidablik (2006) studied 5,026 11-, 13-, and 15-year old Norwegian students and noted gender differences in body dissatisfaction; girls more often reported negative health, dieting, and weight/appearance dissatisfaction, with these problems increasing as the girls got older. Similarly, Verplanken and Velsvik (2007) found girls (from among 426 Norwegian students aged 12-15) to show more image dissatisfaction than males, even if habitual negative body image thinking was found for both genders.

Certainly, healthful, or less than healthful lifestyles, are consequential for body weight and body images. Moreno-Murcia, Hellin, Gonzalez-Cutre, and Martinez-Galindo (2011), in their study of healthy lifestyle habits of 472 male and female youth in Spain, reported

sport competence to be positively correlated with physical activity for both genders. But, alcohol/tobacco use was negatively correlated with physical activity only for males.

To further understand the health practices of female youth, Forneris, Bean, Snowden, and Fortier (2013) explored physical activity and body image of 11 Canadian females, aged 12-16. Body image permeated the girls' idea of health and engagement in health behaviors; being thin was to be healthy. And positive peer support enabled more physical activity. However, self-perceptions were a double-edged sword: positive perceptions facilitated participation in physical activity but low self-esteem was a barrier to becoming physically active.

Obesity, or being over-weight, is another dimension of body image. Vera-Villarroel, Piqueras, Kuhne, Cuijpers, and van Straten (2014) studied 3,311 Chilean university students (aged 17-24) and observed more male (than female) students to be overweight or obese. Overweight/obese male students were less physically active, had unhealthy diet, and had much higher drug use. Overuse of pharmaceutical substances was common among overweight males while overweight females reported tobacco, alcohol, and marijuana.

Healthy adolescence is also critical for good health later in life. For example, adolescent exposure to drugs and alcohol has been linked to negative consequences in adulthood (Vera-Villarroel et al. 2014). Multiple exposures to cannabis and alcohol in ages 13-15 were more likely to lead to substance dependency, herpes, early pregnancy, and criminal offenses in adulthood (Odgers, Caspi, Nagin, Piquero, Slutske, Milne, Dickson, Poulton, and Moffitt 2008).

To summarize, research on adolescent agency in their body image is important to study among both males and females. Although research about body image, health practices and dissatisfaction is more female-centered, there are some aspects of body image, like greater levels of obesity and drug use, which are more male-centered.

Micro-System Protective and Risk Factors

While youth are ultimately responsible for their own health, families and friends in their immediate environment also support and/or worsen body image issues and related healthy/unhealthy behaviors. Parents/guardians help their children maintain healthy body weight by creating positive environments that establish normative behaviors to support their children's well-being. On the other hand, parents can also pose risks; parental habits and behaviors in the home, such as poor eating/diet, no encouragement for physical activity, or drugs/alcohol, can contribute to negative body image among adolescents.

Parents as Protectors

Families do play an important role in shaping children's weight behaviors and attitudes. Frisen and Holmqvist (2010) studied 30 Swedish boys and girls, aged 10-13, and noted that girls were not that concerned with their imperfections; rather they accepted them as part of who they were. Both genders thought it was important and a natural part of their lives to exercise routinely. Also, health conversations with family/friends often focused on the external and interchangeable aspects of a person, such as clothing or hair. When adolescents reported having negative comments from family or friends, they were not bothered because most had been told by parents, particularly mothers, that they should overall be satisfied with how they look.

The critical role of the mother has been documented in other research on body image. Daily, Thompson, and Romo's female teens (2013), when compared to males in a sample of 107 motivating mother-teen dyads, adopted healthier behaviors and felt more satisfied with weight management communication. Notably, mother-daughter relationships were more influential than father-daughter when it came to body dissatisfaction and eating disorders in another sample of young adult women aged 16-24 (Kluck 2010). Kluck surveyed 268 never-married college women, the majority of whom (85%) came from two parent households with at least one biological parent (married or one/both remarried). Appearance-focused families had similar negative effects as media messages on young women specifically, and weight related behaviors were associated with increased rates of body dissatisfaction.

The Risks that Families Pose

While families are typically supportive of healthy adolescent development, they can also aggravate physical and body image problems for their adolescents. Ata, Ludden, and Lally (2006), who studied 177 8th-12th grade students from the Northeast United States, found family pressure to be the strongest predictor of negative body image/eating behaviors. To quote, "When adolescents perceive these pressures from the people who are closest to them – their family and friends – they may become more distressed, feel more negatively about themselves, diet, and engage in other negative eating behaviors..." (1033). Interestingly, sociocultural pressures (family, friends, media) were more relevant for males than females.

Parents are also known to greatly miscalculate their female child's weight status, especially during adolescence. Hearst, Sherwood, Kelin, Pasch, and Lytle (2011) studied 375 parent-adolescent dyads (grades 6-11) who were American Health Partners health plan members; most parents overestimated their daughter's weight even when she was actually a healthy measured weight. Estimating healthy weight became more challenging for parents as their adolescents' bodies grew and matured.

Childhood obesity, another dimension of youth body image, has roots in the family. Parenting practices and their connections to early-childhood (children aged 2-5) obesity was the focus of Hernandez, Thompson, Cheng, and Serwint's study (2012). In their

survey of 150 parent-child dyads, unhealthy food purchase, using food as reward, and forcing children to finish food were risk factors for early-childhood obesity. However, few parents thought low-levels of physical activity were a reason for obesity, highlighting the need for age-appropriate educational efforts to get parents involved and knowledgeable about the importance of activity for children's health.

Friendship Circles

Adolescence is a developmental stage where youth prefer to spend more time with their peers than with their families. Holsen, Jones, and Birkeland's (2012) study of 1,132 Norwegians aged 13-30 found that peer relationships were significant predictors for body satisfaction for both males and females. Those who reported poor quality relationships expressed less body satisfaction. However, even though those with positive relationships showed overall less growth in image satisfaction over time, those with less positive relationships had steeper growth in image dissatisfaction. Researchers concluded, "perceptions of supportive relationships are connected to more consistent and positive self-appraisals of body image independent of gender" (206).

The comparative influence of parents and peers in adolescent body image management has been another theme in the extant research. Holsen et al. (2012) found that "although adolescents and young adults spend less time with their parents compared to peers as they get older, the early adolescent attachment and close relationship to parents seem to matter for development of body image satisfaction among males" (206). For women however, other factors, such as romantic partners or experiences like pregnancy, were more relevant to their body image. Helfert and Warschburger's (2011) study of 236 German girls and 193 boys (grades 7-9), found similar results about peer and parental pressure on body image; positive parental relationships were important for weight management for both genders. But, peers were also influential figures in weight/appearance beliefs and practices.

In short, parents and peers act as a protectant through healthy conversations and positive communication with adolescents. On the other hand, parents and peers can also exert negative pressures, as on childhood obesity. Of particular relevance to the current research was the gender differences in the effects of parents and peers; negative communication and pressures impacted negative body image of both genders, but positive communication between mothers and their daughters was more consequential.

Meso-System Protective and Risk Factors

As children grow older, their social environment expands beyond their families and friends. School peers and teachers become an important addition to adolescent lives.

Meso-System Risks

While schools are supposed to be a safe environment for learning, school bullying is becoming a common experience for many American adolescents. Unfortunately, bullying, which can be physical, verbal, or relational, has negative effects on a child's well-being.

Prior research has shown that adolescents who were victims of bullying typically experienced more psychological problems than those who were not bullied. For example, Brixval, Rayce, Rasmussen, Holstein, and Due (2011), who studied 4,781 Danish students aged 11, 13, and 15, observed that overweight/obese boys and girls were at greater odds of negative body image as a consequence of exposure to bullying. Ledwell and King (2015), who studied health-related behaviors and attitudes of 14,817 American adolescents in grades 6-10, concluded that the majority of youth internalized behaviors more when they were bullied. But, when adolescents had positive and supportive relationships with their parents they tended to fare better socially, emotionally, and psychologically. In other words, parental support protected adolescents from internalizing distress experienced because of bullying.

Body weight, whether over or underweight, is sometimes a gendered trigger for bullying. Wang, Iannotti, and Luk (2010), studied the relationship between body weight and victimization among 6,939 U.S. youth grades 6-10. They found overweight boys and girls were more likely to be targets of verbal bullying. But, underweight boys were more likely to be physical victims while underweight girls were more likely to be relational victims. Wang et al. (2010) also found gender differences in types of bullying; boys were more involved with physical bullying and girls in relational bullying.

With the exponential growth of the internet as a medium for social interactions, the cyberspace has become another avenue for gendered bullying. Kowalski and Limber (2012) studied 931 6th-12th grade students in Pennsylvania to compare the negative effects of traditional bullying versus cyberbullying. For male victims, it was the negative, physical, psychological, and academic, effects of cyberbullying that were the most-pronounced. Female victims reported high rates of anxiety and depression when they experienced cyberbullying.

Another gendered context for bullying is sports. Slater and Tiggemann (2011) studied 714 South Australian boys/girls, aged 12-16, and found that girls who participated in sports were more likely to be teased by girls. Since appearance-related teasing affected girls more, the researchers concluded that higher levels of teasing may contribute to lower rates of female participation and enjoyment of organized sports.

Meso-System Protection

Despite the negative school environments that children sometimes face, academic institutions do live up to the healthy developmental functions they were intended to provide children. Research has shown that school engagement and interactions can be

positive for many students and even decrease high school dropout rate. Fall and Roberts (2012) analyzed a base-year study which was carried out in a national probability sample of 752 public, Catholic, and private schools; 15,362 students, 13,488 parents, 14,081 teachers, 743 principals, and 718 librarians completed the questionnaires. Teacher and parent support encouraged positive self-perception in their sample of students. Besides, students who were engaged academically were less likely to drop out of school. To add, Forrest, Bevans, Riley, Crespo, and Louis' (2012) 1,479 U.S. students who were entering the age of adolescence, were protected from school related stress, bullying, other related pubertal transitions, and were academically successful if they had positive and supportive school relationships.

In summary, the meso-system can be positive and negative environments for adolescents. On the negative front, victims of bullying experience suffer psychological issues, and are typically overweight or underweight in size. With the rise of technology and the social space, cyberspace is becoming a growing platform for bullying. Both overweight and underweight males and females are bully victims. Also, the gendered nature of the extant findings indicated that males were more involved with physical bullying while girls in mental and relational bullying.

Youth Demographics

Urban living, race/ethnicity, and social class have been additional inter-related parameters in the discussion of gendered body image. About one-third of the 1,212 youth (grades 4-6) surveyed in an inner-city U.S. location were overweight or obese (Xanthopoulos, Borrabile, Hayes, Sherman, Vander Veur, Grundy, Machmani, and Foster 2011). Dissatisfaction was more common among Black and Hispanic children and those from lower socioeconomic status households. Weight status was the strongest predictor for body dissatisfaction among heavier adolescents, Asians, and girls. Van den Berg, Mond, Eisenberg, Ackard, and Neumark-Sztainer's (2010), who studied 7th-12th graders in the Minneapolis-St. Paul area using in-class surveys as part of Time 1 trial (4,746 respondents) and Time 2 trial (2,516 respondents), found: "given the strong social pressures that girls face regarding physical appearance, one might expect that body image would have a stronger effect on global self-esteem in female adolescents. However, the large size and racial/ethnic socioeconomic diversity of our sample lend support to the generalizability of this result" (294).

Summary and Looking Forward

On balance, much is known about the importance of strong parent-child relationships and communication for positive adolescent body image, and how bullying negatively affects their weight management and internalizing behaviors. Yet, researchers reviewed above also offered new methodological and substantive directions that adolescent body image researchers should take. Some of the suggestions considered in this study were: using multiple measures of body image to better capture body image (Xanthopoulos et al. 2011); incorporating the influential people in children's lives, mothers, fathers, and

peers (Hernandez et al. 2012; Daily et al. 2013; Ata et al. 2006); as well as the negative (bullying, Kowalski and Limber 2012) and positive aspects of school life (student academic involvement, Fall and Roberts 2012; Forrest et al. 2012). As per Ledwell and King's (2015), the indirect pathways (protection against bullying and offering academic support) through which parents helped their adolescents with body image problems will also be addressed.

This research will address a set of related questions. The first issue is how parent/guardians and academic engagement protected adolescents against the negative effects of school bullying, and in turn their body image. The comparative influences of protective factors (parent/guardians, academic engagement) versus risk behaviors (friendship circles, school bullying) will then be evaluated. Because of the established gendered difference in body image, the analyses will be conducted separately for male and female adolescents.

RESEARCH QUESTION

The research question stated formally was: what comparative roles did youth agency as well as the micro and meso-system environments (protective and risks) play in shaping the negative body image of adolescents? Because of the known gendered variations in body image, separate analyses were conducted for male and female adolescents. Grade, race/ethnicity, and nationality were controlled.

Definition of youth agency included health promoting activities and drugs/alcohol usage. Following Bronfenbrenners' ecological framework (1979), adolescents' relationships with their family (micro-system protection) were measured by how supportive their maternal (mother/female guardian) and paternal (father/male guardian) family were. Social relationships in friendship circles represented potential risks in the micro-system environment. Academic engagement and school bullying experiences represented the protective and risk factors, respectively, in the adolescents' meso-system environment. The goal was to better target health promotion initiatives, and to understand the development of health behaviors and attitudes through early adolescence.

THEORETICAL FRAMEWORK

At one level, negative body image can be thought of as an abstract social issue constructed by television and other media advertisements. However, as we have seen in the literature reviewed in the previous section, negative body image is also a product of micro- and meso-level environments in the life of a child. This study evaluated gender differences in the influences of parents/guardians (micro-system), teen academic life and school mates (meso-system) play in constructing negative body image of adolescents. The Iowa and Chicago schools of self-concept along with gendered

identity socialization offered ways to theoretically isolate the effects of micro and meso-systems on body image.

Socialization- Iowa and Chicago Schools of Self-Concept

Parents are typically the first socializing agents in children's lives. And children who were raised in a supportive and caring environment are likely to develop a healthy sense of social self or a strong self-concept which is expected to carry over into their later years. Theorists differ in the permanence or fluidity of self-concept developed early in life. For example, the Iowa School of self-concept (Manford Kuhn 1964) posited that the "self," developed in the early stages is a constant state of being and does not change from situation to situation or from place to place.

In contrast to the Iowa School, the Chicago School of self-concept (Herbert Blumer 1969) stated that the "self" is dynamic; it is molded by new situations and can change from situation to situation and place to place. As per this reasoning, even adolescents who have developed strong self-concepts growing up in supportive environments, can, in the face of bullying, struggle with their identities. For example, an overweight student bullied in 5th grade and told by peers they were too fat, could develop a negative image of their self. Then, say in the 9th grade, the student lost a significant amount of weight and is not told by peers that he/she was not too fat, is no longer bullied, internalized the new messages, and assumed control over their body image; in this scenario, the "self" changed as the child grew older.

Gendered Socialization and Identity

Another important dynamic in the socialization process and construction of the self-concept, whether stable or dynamic, is gendered self-concept. Gender socialization begins at birth; the way families differentially shape behavior and define boundaries for their daughters and sons are eventually internalized by children and become their identity standard (Carter 2014). In other words, gender and gender related differences are created, maintained, and perpetuated throughout life. These gendered structures of symbolic interactions in the socialization processes have vastly different meaning and consequences for boys and girls. For example, daughters might require more attention and support from parents in their development than sons.

Deriving from the Iowa School and gendered identity theories, the first hypothesis predicted: parent/guardian relationships will have more of a positive impact on body image of girls than boys, after controlling for academic engagement, bullying, grade, race/ethnicity, and nationality. In contrast, girls who grew up with weak or non-existent parent/guardian relationships will have a more negative image of their bodies, with these images continuing into adolescence and beyond.

In contrast, the second hypothesis, based on the Chicago School and gendered identity theories, posited that being a victim of school bullying will have a stronger negative impact on school-aged girls' body image (than that of boys), after controlling for parent relationships, academic engagement, grace, race/ethnicity, and nationality.

This study also assessed the gendered protection that parents/guardians offered their children against negative body image, by indirectly shielding them from the negative consequences of school bullying. Therefore, the third hypothesis stated that positive parent/guardian relationships will protect adolescent girls (more than boys) against the negative effects of school bullying, and consequently promote a positive body image.

METHODS AND DATA SOURCES

This research used secondary data from the 2009 national survey of children's health. Survey analyses were supplemented with qualitative interviews specifically conducted for this paper with education and health professionals.

Secondary Quantitative Survey Data

The main source of secondary data was the 2009-2010 survey data on Health Behavior in School-Aged Children (HBSC) (Iannotti 2009). The principal investigators were: Ronald J. Iannotti, United States Department of Health and Human Services, National Institutes of Health, and Eunice Kennedy Shriver National Institute of Child Health and Human Development (2009). The researchers used on-site questionnaires with students in Grades 5 through 10 from 314 participating schools in the 50 states and the District of Columbia; public, Catholic, and other private schools were included.

Data used for the current study on negative body image included healthy and risk behaviors and attitudes of 11,531 youth (who had complete information on the Negative Body Image index). An equal number of males (n=5,858) and female (n=5,673) were surveyed (Appendix A: Table). As seen in, the majority were U.S. born (males =91.2%; females =91.7%), and Non-Hispanic/Latino (males=71.6%; females=72.3%). These demographic differences will be controlled for in the multivariate analyses.

Primary Qualitative Data

In order to elaborate on the multivariate statistical results about negative body image, I also conducted interviews with professionals who work with adolescents in school settings. The following professionals were interviewed via e-mail or phone: a middle school counselor (Interviewee #1); school psychologist/behavior specialist (Interviewee #2); middle school physical education teacher and coach (Interviewee #3); high school social studies teacher (Interviewee #4); psychologist (Interviewee #5); and a high school

health education teacher (Interviewee #6). Each interviewee had direct knowledge and experience with students regarding negative body image, bullying, and health behaviors. See Appendix B for the interview protocol and consent form.

DATA ANALYSES

Three levels of statistical analysis were used for this research. After describing the sample by using indicators chosen to represent the concepts in the research question, multivariate regression analyses were used to identify the multiple pathways through which parents/guardians, along with other protective factors, might protect adolescents from bullying and, in turn, minimize their negative body image. To assess gendered variations in body image, the analyses were disaggregated for male and female youth.

Operationalization and Descriptive Analyses

The univariate descriptive analyses focused on youth agency (negative body image, health activity, drugs/alcohol) and the two ecological systems considered for this research: micro-system (friendship circles, family), and the meso-system (academic engagement, school bullying culture).

Negative Body Image

As noted in the literature reviewed for this research, adolescent body image, particularly of the negative kind, is largely a social construction of the individual aided by surrounding influencers. Before assessing the reasons for adolescent negative body image, it is important to understand how school-aged children viewed their bodies in terms of weight and comfort level. Preliminary evidence on the body image of adolescents covered in this study is presented in Table A. below.

On balance, adolescent males had a more positive weight image and felt more comfortable with their bodies than their female counterparts. For example, the mean () negative body image score (range 2-14) for males was 5.3 (SD=2.7) while it was 6.2 (SD=3.0) for females⁵.

More specifically, half the male youth (53.8%) were satisfied with their weight without dieting compared to fewer females (47.0%; Q37). Similar gender differences were noted in their body comfort. Over two-thirds of males were not frustrated with their physical appearance (Q38A: 40.3% strongly disagree; 26.8% disagree) and even felt comfortable with their bodies (Q38D: 34.7% strongly agree; 37.8% agree). But, female responses were more varied; only half were not frustrated with physical appearance

⁵ Gender differences when noted were statistically significant at least at the .05 level (p value).

(27.3% strongly disagree; 25.1% disagree) and only a little over half felt comfortable with their bodies (26.4% strongly agree; 32.4% agree). It was interesting that males and females did not differ in thinking about their body size (Q8). Two-thirds thought they were about right size; but another third thought they were a bit too thin or fat.

**TABLE 1.A. Negative Body Image
Health Behavior in School-Aged Children 2009-2010**
(Male n=5858; Female n=5673)

Concept	Dimen- sions	Variables	Response	Statistics	
				Male	Female
Negative Body Image	Weight	Q8. Do you think your body is...?	0= About the right size ¹	61.4%	59.3%
			1= A bit too thin/fat	33.9	34.9
		2= Much too thin/fat	4.7	4.8	
		Q37. Doing something to lose weight? ²	0= no my weight is fine ¹	53.8% ^{***}	47.0% ^{***}
			1= no, but should lose some/put on some weight	29.1	32.4
	Comfort Level	Q38A. Frustrated with my physical appearance ³	1= strongly disagree ¹	40.3% ^{***}	27.3% ^{***}
			2= disagree	26.8	25.1
			3= neither agree or disagree	16.9	22.0
			4= agree	11.0	17.0
			5= strongly agree	5.0	8.7
Q38D. Feel comfortable with my body ⁴	1= strongly agree ¹	34.7% ^{***}	26.4% ^{***}		
	2= agree	37.8	32.4		
	3= neither agree or disagree	13.2	19.0		
	4= disagree	8.3	14.5		
	5= strongly disagree	6.0	7.7		
		Index of Negative Body Image ⁵	Mean (SD)	5.3 (2.7)	6.2 (3.0) ^{***}
			Min-Max	2-14	2-14

^{***} p ≤ .001; ^{**} p ≤ .01; ^{*} p ≤ .05.

1. Recoded from original numerical codes;

2. Q37. At present are you on a diet or doing something else to lose weight?

3. Q38A. Please evaluate how the statements relate to you by checking the degree to which you agree or disagree with each one... I am frustrated with my physical appearance;

4. Q38D. Please evaluate how the statements relate to you by checking the degree to which you agree or disagree with each one... I feel comfortable with my body;

5. Index of Negative Body Image = Q8+ Q37+ Q38A+ Q38D (correlations among index variables were positive and statistically significant).

Youth Agency

The first set of explanatory factors, Youth Agency, included two dimensions: health activities and drug/alcohol usage. Adolescent reports of their health activities are presented first, followed by drug/alcohol usage.

Health Activity. Overall, males were more physically active (Table 1.B.), based on the mean score ((=17.1) on the empirical index of health activity (scale 2-26), compared to

females (n=16.1) who were more sedentary. Some specifics: well over 75% of males were consistently exercising in their free time (Q23), with one-third (29.8%) exercising to get out of breath every day. In contrast, only 18.4% of females exercised every day, with half exercising 2-6 times a week.

TABLE 1.B. Youth Agency: Health Activity
Health Behavior in School-Aged Children 2009-2010
(Male n=5673-5810; Female n=5558-5634)

Concepts	Dimensions	Variables	Response Values	Statistics		
				Male	Female	
Health Activity	Physical Activity	Q20. Exercise in free time...you get out of breath or sweat? ²	0= Never ¹	4.6% ^{***}	7.3% ^{***}	
			1= Less than once a month	2.5	5.2	
			2= Once a month	2.1	4.2	
			3= Once a week	9.5	14.9	
			4= 2-3 times a week	25.2	29.3	
			5= 4-6 times a week	26.3	20.6	
			6= every day	29.8	18.4	
		Q23. Main part of your trip TO school made by? ³	0= other means ¹	1.7% ^{***}	1.6% ^{***}	
			1= bus, train, tram, metro, subway, boat	39.9	39.0	
			2= car, motorcycle, moped, moto scooter	43.4	46.3	
			3= walking	12.9	12.7	
			4= bicycle	2.1	0.4	
		Sedentary Activity	Q10_2. Use a computer in your free time on weekend ⁴	1= about 7 or more hours a day ¹	4.8% ^{***}	6.6% ^{***}
				2= about 6 hours a day	2.1	2.7
			3= about 5 hours a day	3.1	4.4	
			4= about 4 hours a day	5.3	6.3	
			5= about 3 hours a day	7.9	10.0	
			6= about 2 hours a day	11.9	13.7	
			7= about 1 hour a day	17.0	18.3	
		8= about half an hour a day	21.4	21.1		
		9= none at all	26.4	16.8		
		Q31. Eat in a fast food restaurant ⁵	1= 5 or more days a week ¹	3.1%	3.0%	
			2= 2-4 days a week	12.3	11.3	
			3= Once a week	19.0	19.1	
			4= 2-3 times a month	31.2	30.5	
			5= Once a month	10.7	10.4	
			6= Rarely (less than once a month)	21.1	22.7	
			7= Never	2.6	3.0	
		Index of Health Activity ⁶	Mean (SD)	17.1	16.1 (3.6) ^{***}	
			Min-Max	(3.3)	2-26	
				2-26		

*** p ≤ .001; ** p ≤ .01; * p ≤ .05.

1. Recoded from original numerical codes;

2. Q20. Outside of school hours: How often do you usually exercise in your free time so much that you get out of breath or sweat?

3. Q23. On a typical day is the main part of your trip TO school made by...?

4. Q10_2. About how many hours a day do you usually use a computer for chatting on-line, internet, emailing, homework etc. in your free time?...WEEKEND;

5. Q31. How often do you eat in a fast food restaurant (for example McDonalds, KFC, Pizza Hut, Taco Bell)?

6. Index of Health Activity = Q20+ Q23+ Q10_2+ Q31 (correlations among index variables were positive and statistically significant).

As for sedentary activity, far more males (26.4%) did not spend their free time using a computer (Q10.2), compared to only 16.8% females not spending free time on a computer. Males and females did not differ in their fast food eating habits (Q31); both male and females reported either rarely or one-three times eating fast food per month.

Drugs/Alcohol. The second dimension of youth agency was the adolescent's drugs/alcohol choices and use. Majority of males (91.6%) and females (94.3%) had never smoked marijuana (Q81C) nor smoked tobacco (males 90.3%; females 92.5%). Based on the mean score (scale 0-9) for males (=0.4) and females (=0.3), both genders did not have much experience with drugs (Table 1.C).

**Table 1.C- Youth Agency: Drugs/Alcohol
Health Behavior in School-Aged Children 2009-2010**
(Male n=5563-5762; Female n=5433-5594)

Concepts	Dimen- sions	Variables	Response Values	Statistics	
				Male	Female
Drugs/ Alcohol	Drugs	Q81C.	0= Never ¹	91.6% ^{***}	94.3% ^{***}
		Taken	1= 1-2 times	2.8	2.5
		marijuana	2= 3-5	1.3	1.0
		in the last	3= 6-9	0.9	0.6
		30 days ²	4= 10-19	1.0	0.7
			5= 20-39	0.6	0.3
			6= 40+	1.7	0.6
		Q77.	0= I do not smoke ¹	90.3% ^{***}	92.5% ^{***}
	Smoke	1= Less than once a week	4.5	3.9	
	tobacco at	2= At least once a week, but not every day	2.5	1.9	
	present? ³	3= Every day	2.8	1.6	
		Index of	Mean (SD)	0.4 (1.4)	0.3 (1.0)
		Drugs ⁴	Min-Max	0-9	0-9
		Alcohol	Q79. Had	0= No, never ¹	86.0% ^{***}
	alcohol so	1= Yes, once	7.0	8.3	
	that you	2= Yes 2-3 times	3.5	3.5	
	were	3= Yes, 4-10 times	1.5	1.3	
	really	4= Yes, more than 10 times	2.1	0.9	
	drunk? ⁵	Q76B.	0= Never ¹	78.4% [*]	77.0% [*]
	Last 30	1= Once or twice	11.9	12.8	
	days	2= 3-5 times	3.4	3.9	
	drunk	3= 6-9 times	1.6	2.0	
	alcohol? ⁶	4= 10-19 times	1.4	1.6	
		5= 20-39 times	0.8	0.8	
		6= 40+	2.5	1.8	
		Index of	Mean (SD)	0.7 (1.8)	0.7 (1.6)
		Alcohol ⁷	Min-Max	0-10	0-10

^{***} p ≤ .001; ^{**} p ≤ .01; ^{*} p ≤ .05.

¹ Recoded from original numerical codes;

² Q81C. Have you ever taken marijuana (pot, weed, hash, joint)... In the last 30 days;

³ Q74. How often do you smoke tobacco at present?

⁴ Index of Drugs= Q81C+ Q74;

⁵ Q79. Have you ever had so much alcohol that you were really drunk?

⁶ Q76B. On how many occasions (if any) have you done the following things in the last 30 days...drunk alcohol;

⁷ Index of Alcohol= Q79+ Q76B (correlations between the two variables were positive and significant).

Adolescents, irrespective of gender, did not have much experience with alcohol either; mean alcohol score on the 0-10 index was =0.7 for males and 0.7 for females. A vast majority (86.0%) of both groups had never had so much alcohol that they were really drunk (Q79). Neither had they had alcohol in the past 30 days (Q76B); males 78.4% and females 77.0% reported never (Table 1.C).

Micro-System Risk Factors: Friendship Circles

A third potential influence on negative body image was the adolescents' friendship circles (Table 1.D.).

**Table 1.D- Micro-System Risk Factors: Friendship Circles
Health Behavior in School-Aged Children 2009-2010**
(Male n=5563-5762; Female n=5433-5594)

Concepts	Dimen- sions	Variables	Response Values	Statistics	
				Male	Female
Friendship Circles	Time Spent	Q57. Days a week spend time with friends right after school? ¹	0= 0 days	17.7% ^{***}	22.6% ^{***}
			1= 1	12.4	15.7
			2= 2	14.8	16.1
			3= 3	17.0	14.8
			4= 4	10.0	9.0
			5= 5	13.8	12.2
			6= 6	14.3	9.5
		Q58. Evenings per week spend out with friends? ²	0= 0	26.1% ^{***}	30.4% ^{***}
			evenings	16.0	19.0
			1= 1	17.6	18.7
			2= 2	13.7	12.2
			3= 3	9.2	7.4
			4= 4	6.9	5.2
			5= 5	2.9	2.4
Drug/ Alcohol Culture	Q78D. How many friends smoke/ use marijuana? ³	6= 6	7.6	4.8	
		7= 7			
		1= None	68.4% ^{***}	68.1% ^{***}	
		2= A few	15.5	14.7	
		3= Some	7.8	8.0	
		4= Most	5.3	7.0	
		5= All	3.0	2.3	
		Q78B. How many friends drink alcohol? ⁴	1= None	60.6%..	57.8% ^{**}
			2= A few	20.8	21.2
			3= Some	10.0	10.9
4= Most	6.2		7.6		
5= All	2.4		2.5		
	Index of Friendship Circles ⁵	Mean (SD)	8.5 (4.5)	7.8 (4.2) ^{***}	
		Min-Max	2-23	2-23	

^{***} p ≤ .001; ^{**} p ≤ .01; ^{*} p ≤ .05.

1. Q57. How many days a week do you usually spend time with friends right after school?

2. Q58. How many evenings per week do you usually spend out with your friends?

3. Q78D. How many of your friends would you estimate...? Smoke/use marijuana (pot, weed, hash, joint);

4. Q78B. How many of your friends would you estimate...Drink alcohol?

5. Index of Friendship Circles= Q57+ Q58+ Q78D+ Q78B (correlations among index variables were positive and statistically significant).

First, adolescents were asked how many days they spent with friends right after school (Q57); more males (14.3%) spent time with friends right after school six days a week, compared to only 9.5% of females. In contrast, more females (22.6%) spent zero days with friends versus 17.7% males. Even in the evenings (Q58), more females (30.4%) spent zero days with friends than males (26.1%). Also, more males (7.6%) spent seven evenings a week with friends whereas only 4.8% females did so.

Looking next at their friends' drug/alcohol use, 68% of friends did not use marijuana (Q78D). However, slightly more females (17.3%) had 'some, most or all' friends who used marijuana. Most males (60.6%) and females (57.3%) did not have any friends who drank alcohol (Q78B). But, slightly more females (21.0%) than males reported having 'some, most, or all' of their friends who drank alcohol. In short, based on the mean score (scale 2-23), males (=8.5) spent more time with friends (than females =7.8). But, males were less likely to be around those who used drugs/alcohol than females.

Micro-System Protective Factors: Family

The fourth independent concept, mapped family influences on the adolescents' body image (Table 1.E.). The first set of questions referred to the mother/female guardian. More female youth (82.4%) than males (77.5%) responded their mother she knew a lot about where the child was after school (Q51C). When asked if their mother/female guardian knew their friends (Q51A), females (63.8%) responded more positively than males (56.1%). The gender responses were reversed when the same questions were asked about the father/male guardian. Two-thirds of males (57.0%) reported their father knew where they were after school (Q52C), only half females (50.5%) did so. And more males (42.2%) than females (31.1%) noted their father/male guardian knowing a lot about who their friends were (Q52A).

Adolescents were also asked about ease of talking to (communicate with) their mother and father about things that really bothered them. More males found it very easy (42.7%) or easy (29.5%) to talk to their mothers (Q50C); comparable numbers for females (39.6% very easy and 29.2% easy). One-third of males (31.4%) found it very easy to talk to their father about things that bothered them (Q50A), whereas only 17.0% of females found it very easy. Interestingly, although males found it easier to talk to their mother than father, the majority felt comfortable talking to both mother and father. However, many more females reported it much easier to talk to their mother (68.8%) than father (41.2%).

Overall, more male adolescents (36.2%) were satisfied/had very good relationships in the family (Q54) compared to females (28.8%). Based on the mean score for males (=16.3) and females (=15.8) on the empirical index for maternal figure (scale 0-20), school-aged children had a female parent/guardian who was quite involved in their lives and generally felt satisfied with their parent relationships. In comparison, on the empirical paternal index (scale 0-20), males (=15.0) had a slightly more involved relationship than females (=13.7).

TABLE 1.E. Micro-System Protective Factors: Family Health Behavior in School-Aged Children 2009-2010
(Male = 5639-5752 and Female=5500-5595)

			Statistics			
Concept	Variables	Response Values	Mother/Guardian		Father/Guardian	
			Male	Female	Male	Female
Family	Q51C & Q52C. Where you are after school? ²	0=Don't have/see person ¹	1.7%	1.3% ^{***}	1.7%	1.3% ^{***}
		1= doesn't know anything	5.3	4.3	5.3	4.3
		2= knows a little	15.4	12.0	15.4	12.0
		3= knows a lot	77.5	82.4	77.5	82.4
	Q51A & 52A. Who your friends are? ³	0= Don't have/see person ¹	1.7%	1.0% ^{***}	1.7%	1.0% ^{***}
		1= doesn't know anything	6.2	3.9	6.2	3.9
		2= knows a little	35.9	31.2	35.9	31.2
		3= knows a lot	56.1	63.8	56.1	63.8
	Q50C & 50A. Talk about things that really bother you ⁴	0= Don't have/see person ¹	3.9%	3.7% ^{***}	3.9%	3.7% ^{***}
		1= very difficult	8.8	10.7	8.8	10.7
		2= difficult	15.0	16.7	15.0	16.7
		3= easy	29.5	29.2	29.5	29.2
	Q54. Satisfied with family? ⁵	4= very easy	42.7	39.6	42.7	39.6
		0= We have <u>very bad</u> relationships	1.2%	1.4% ^{***}	1.2%	1.4% ^{***}
		1	0.7	1.5	0.7	1.5
		2	1.6	2.0	1.6	2.0
		3	1.8	3.7	1.8	3.7
		4	2.6	4.8	2.6	4.8
		5	5.3	8.5	5.3	8.5
		6	5.7	7.2	5.7	7.2
7		9.4	10.0	9.4	10.0	
8		14.8	13.8	14.8	13.8	
9	20.7	18.2	20.7	18.2		
	10= We have <u>very good</u> relationships	36.2	28.8	36.2	28.8	
	Index of Maternal & Paternal ⁶	Mean (SD)	16.3 (3.4)	15.8 ^{***} (3.8)	16.3 (3.4)	15.8 ^{***} (3.8)
		Min-Max	0-20	0-20	0-20	0-20

*** p ≤ .001; ** p ≤ .01; * p ≤ .05.

1. Recoded from original numerical codes;

2. Q51C & Q52C. How much does your mother/father (or female/male guardian) really know about...where you are after school?

3. Q51A & Q52A. How much does your mother/father (or female/male guardian) really know about...Who your friends are?

4. Q50C & Q50A. How easy is it for you to talk to the following persons about things that really bother you... MOTHER/FATHER;

5. Q54. In general, how satisfied are you with the relationships in your family?

6. Index of Maternal= Q51C+ Q51A+ Q50C+ Q54; Index of Paternal= Q52C+ Q52A+ Q50A+ Q54 (correlations among variables for both sets of indices were positive and statistically significant).

Meso-System Protective Factors: Academic Engagement

Academic engagement, the fifth independent concept, represented school influences on adolescents (Table 1.F). The first indicator (Q61) found more females thought highly of their school performance (34.2% very good or 38.6% good), compared to males (27.8% very good or 41.1% good). Slightly more females (78.4%) liked school a lot or liked school a bit compared to 74.6% males. Lastly, most males (74.8%) and females (71.6%) felt accepted by other students in their classes (Q63). Overall, most students were satisfied with school and relationships, based on the mean score for males (=9.8) and females (=10.0) on the academic engagement empirical index (scale 3-13).

**Table 1.F. Meso-System Protective Factors: Academic Engagement
Health Behavior in School-Aged Children 2009-2010**
(Male n=5651-5736; Female n=5527-5571)

Concepts	Variables	Response Values	Statistics	
			Male	Female
Academic Engagement	Q61. Teacher(s) think about school performance compared to classmates ²	1= Below average ¹	5.2% ^{***}	3.7% ^{***}
		2= average	25.9	23.5
		3= good	41.1	38.6
		4= very good	27.8	34.2
	Q62. Feel about school at present? ³	1= I don't like it at all ¹	8.4% ^{***}	6.4% ^{***}
		2= Don't like very much	16.9	15.2
		3= I like it a bit	46.0	45.2
		4= I like it a lot	28.6	33.2
	Q63C. Other students accept me as I am ⁴	1= strongly disagree ¹	4.6% ^ˆ	4.9% ^ˆ
		2= disagree	4.9	5.9
		3= neither agree nor disagree	15.7	17.7
		4= agree	41.4	39.0
		5= strongly agree	33.4	32.6
	Index of Academic Engagement ⁵	Mean (SD)	9.8 (1.9)	10.0 (2.0)
		Min-Max	3-13	3-13

*** p ≤ .001; ** p ≤ .01; ˆ p ≤ .05.

1. Recoded from original numerical codes;

2. Q61. In your opinion, what does your class teacher(s) think about your school performance compared to your classmates;

3. Q62. How do you feel about school at present?;

4. Q63C. Here are some statements about the students in your class(es). Please show how much you agree or disagree with each one...Other students accept me as I am;

5. Index of Academic Engagement= Q61+ Q62+ Q63C (correlations among index variables was positive and statistically significant).

Meso-System Risk Factors: School Bullying Culture

School bullying culture (Table 1.G.) was the sixth independent concept, included indicators of being a victim of bullying and the bully. Bullying has become more and more prevalent in school especially amongst youth, not only in terms of physical bullying but also mentally and emotionally.

**Table 1.G. Meso-System Risk Factors: School Bullying Culture
Health Behavior in School-Aged Children 2009-2010**
(Male n=5497-5671; Female n=5387-5543)

Concepts	Dimen-Sions	Variables	Values/Responses	Statistics	
				Male	Female
School Bullying Culture	Victim of Bullying	Q65. Bullied at school ²	0= Not bullied in past couple months ¹	72.7%*	72.5%*
			1= Only happened once or twice	15.8	17.4
			2= 2 or 3 times a month	4.3	3.8
			3= About once a week	2.8	2.5
		Q66C. Physical bully victim ³	4= Several times a week	4.4	3.8
			0= Not bullied in past couple months ¹	89.3%***	89.3%***
			1= Only once or twice	9.6	6.3
			2= 2-3 times a month	2.9	1.3
		Q66J. Cyberbully victim ⁴	3= About once a week	2.2	1.4
			4= Several times a week	2.9	1.7
0= Not bullied in past couple months ¹	93.2%***		91.8%***		
1= Only once or twice	3.1		4.8		
		2= 2-3 times a month	1.5	1.4	
		3= About once a week	0.9	0.6	
		4= Several times a week	1.3	1.4	
		Index of Victim of Bullying ⁵	Mean (SD)	1.0 (2.0)	0.8***
			Min-Max	0-12	(1.7)
					0-12
The Bully		Q67. Bullying another student(s) at school ⁶	0= Not bullied another student ¹	69.2%***	75.2%***
			1= Only happened once or twice	21.6	19.2
			2= 2 or 3 times a month	4.4	2.8
			3= About once a week	2.1	1.4
		Q68C. Physically bullied another student(s) ⁷	4= Several times a week	2.8	1.3
			0= Not bullied another student ¹	85.9%***	91.3%***
			1= Only once or twice	8.4	5.3
			2= 2-3 times a month	2.0	1.1
		Q68J. Cyberbullied another student ⁸	3= About once a week	1.7	1.1
			4= Several times a week	2.0	1.2
0= Not bullied another student ¹	93.3%***		95.3%***		
1= Only once or twice	3.0		2.6		
		2= 2-3 times a month	1.3	0.6	
		3= About once a week	0.9	0.6	
		4= Several times a week	1.5	0.9	
		Index of The Bully ⁹	Mean (SD)	0.9 (1.8)	0.6 (1.4)
			Min-Max	0-12	0-12

*** p ≤ .001; ** p ≤ .01; * p ≤ .05.

1. Recoded from original numerical codes;

2. Q65. How often have you been bullied at school in the past couple of months;

3. Q66C. How often have you been bullied at school in the past couple of months...I was hit, kicked, pushed, shoved around, or locked indoors;

4. Q66J. How often have you been bullied at school in the past couple of months...I was bullied outside of school using a computer or e-mail messages or pictures;

5. Index of Victim of Bullying= Q65+ Q66C+ Q66J (positive correlations among variables were significant);

6. Q67. How often have you taken part in bullying another student(s) at school in the past couple of months?

7. Q68C. How often have you bullied another student(s) at school in the past couple of months...? I hit, kicked, pushed, shoved around, or locked another student(s) indoors;

8. Q68J. How often have you bullied another student(s) at school in the past couple of months...? I bullied others outside of school using a computer or e-mail messages or pictures;

9. Index of The Bully= Q67+ Q68C+ Q68J (positive correlations among variables were statistically significant).

The majority (72%) of school-aged males and females had not been bullied in the past couple of months of the survey (Q65). Also, 89.3% males and females had not been physically bullied (Q66C). Most male (93.2%) and females (91.8%) had not experienced cyber-bullying (Q66J) either. Overall, based on the mean empirical index for victim of bullying (male =1.0 and females =0.8) on the (scale 0-12), the children surveyed had little recent experience with being a victim of bullying.

The same questions were then asked about being a bully. More females (75.2%) had not bullied another student, compared to 69.2% males (Q67). A fifth (21.6%) of males had bullied another student once or twice. A majority of females (91.3%) had not physically bullied another student, 85.9% of males had not (Q68C). But 8.4% males had physically bullied someone once or twice compared to only 5.3% females. The vast majority of males (93.3%) and females (95.3%) had not cyber bullied (Q68J). Overall, based on the mean bully index (scale 0-12), the youth had little experience with being a bully (males =0.9 and females (=0.6).

Summary

Overall, female youth had a more negative body image and felt less comfortable with their bodies than their male counterparts. Males were more physically active, whereas females engaged more in sedentary activities. Both male and female students had little experience with individual drug/alcohol use. However, while males (than females) spent more time with friends but were not around drugs/alcohol, females spent less time with friends but were around drugs/alcohol more. As for their families, both males and females mostly felt their family relationships were supportive, even though females found it much easier to talk to their mother. Similarly, the adolescents were surrounded by relatively secure meso-system environments. Most adolescents were academically engaged and were neither bullied or bullied other students at school.

Bivariate Analyses¹

In the next analytical step, bivariate correlations revealed preliminary glimpses into the gendered connections between negative body image and predictors (Appendix C)⁶. For male adolescents, the following relationships were revealing. Adolescent males who had stronger maternal ($r=-.24^{***}$), paternal ($r=-.22^{***}$), and academic engagement ($r=-.25^{***}$) tended to have more positive body image. Also, being a victim of school bullying ($r=.21^{***}$) or being a bully ($r=.11^{***}$) negatively impacted male body image. In sum, for male adolescents, the potential predictors of body image were micro-system (maternal and paternal) and meso-system (academic engagement) protective factors as well as bullying (risk factors).

⁶ Because of the large sample size (over 5000 for males and females), only substantive correlations (greater than $r=.07^{***}$), were discussed. Also, the focus was on the main aspects of the research, namely, correlations between negative body image, parent/guardian relationships, school bullying, and academic engagement.

Female adolescent body image correlations were similar to their male counterparts in many ways, except for a few differences. Maternal ($r=-.34^{***}$), paternal ($r=-.30^{***}$), and academic engagement ($r=-.32^{***}$) resulted in more positive body image. However, health activity ($r=-.10^{***}$) also contributed to positive female body image. Unlike males, drugs ($r=.10^{***}$), alcohol ($r=.14^{***}$), being a victim of school bullying ($r=.17^{***}$), and being older ($r=.14^{***}$) resulted in more negative body image for females. That is, individual agency, micro-system (maternal and paternal) and meso-system protective factors were stronger protectors for females (than males) against negative body image. On the other hand, drugs, alcohol use, and bullying added to the risks of negative female body image. The robustness of these relationships will be tested in the next section.

Multivariate Analyses and Interviewee Insights¹

Finally, based on the premise that parents (Ledwell and King 2015) and schools are often the first line of defense in children's lives from negative experiences, such as school bullying and negative body image, a two-step linear regression analysis was conducted. In the first step the effects (net of demographic controls), of youth agency, parental (micro) and school (meso-system) protection, on bullying were estimated. In the second step, negative body image was regressed on bullying and other protective and risk factors. Separate analyses were conducted for male and female adolescents to identify possible gender differences. This analytical model had the benefit of identifying the multiple and gendered pathways through which parents/guardians along with other micro- and meso-level influences directly and indirectly protected adolescents from being bullied, and in turn minimized the risks of negative body image.

As seen in Model 1 of Table 2, the only two factors that protected male adolescents against bullying were academic engagement ($\beta=-.23^{***}$) and getting older ($\beta=-.17^{***}$). In contrast the portrait of the female victim of bullying was slightly more complex. Like the boys, girls who were more academically engaged ($\beta=-.22^{***}$) and had stronger relationships with maternal figures ($\beta=-.09^{***}$) were protected against bullying. However, unlike males, drug use somewhat elevated the female adolescents' risk of bullying ($\beta=.07^{***}$).

The direct net effects of micro- and meso-system factors on negative body image were presented in Model 2. While boys and girls were protected from, or placed at risk of, negative body image by a similar set of factors, the effects were more pronounced for female, than for male, adolescents. More specifically, being more academically engaged ($\beta=-.14^{***}$), positive maternal ($\beta=-.13^{***}$) support, and less frequent drug use ($\beta=-.08^{***}$) were helpful to boys in protecting a more positive body image; but bullying experiences made their negative body image worse ($\beta=.15^{***}$). Similarly, females who had positive maternal relationships ($\beta=-.21^{***}$) and were more academically engaged ($\beta=-.18^{***}$) experienced more positive body image; but, the net bullying effect on negative body image was more muted for girls ($\beta=.10^{***}$) than for boys. Stated differently, girls needed much more protection from negative body image than comparable boys.

Table 2: Gendered Regression (β) Effects of Youth Agency, Micro- and Meso-System Protective and Risk Factors, and Youth Demographics on Negative Body Image

	Male		Female	
	Model 1 Victim of Bullying	Model 2 Negative Body Image ¹	Model 1 Victim of Bullying	Model 2 Negative Body Image ¹
Youth Agency:				
A. Health Activity ²	-.05***	-.05***	NS	NS
B. Drugs ³	NS	-.08**	.07***	NS
C. Alcohol ⁴	NS	NS	NS	NS
Micro-System Protective and Risk Factors				
A. Friendship Circles ⁵	NS	-.05**	.04**	NS
B. Maternal Figures ⁶	-.05*	-.13***	-.09***	-.21***
C. Paternal Figures ⁷	NS	-.05*	NS	NS
Meso-System Protective Factors				
Academic Engagement ⁸	-.23***	-.14***	-.22***	-.18***
Meso-System Risk Factors:				
Victim of Bullying ⁹	-----	.15***	-----	.10***
Demographic Controls¹⁰:				
Grade	-.17***	NS	-.19***	.06***
Non-Hispanic/ Latino	NS	-.05***	NS	-.03*
U.S. Citizen	-.04**	NS	NS	NS
(Constant)	5.8***	10.35***	4.7***	11.43***
Adjusted R ²	.09***	.12***	.10***	.17***
DF 1 & 2	10 & 4439	11 & 4438	10 & 4542	11 & 4484

*** p \leq .001; ** p \leq .01; * p \leq .05.

1. Index of Negative Body Image= Range 2 (more positive) to 14 (more negative) Q8Thoughts on your body+ Q37Presently on a diet+ Q38AFrustrated with appearance+ Q38DFeel comfortable with body

Youth Agency:

2. Index of Health Activity= Range 2 (more sedentary) to 26 (more physical) Q20Out of breath, free time+ Q23Mode of travel to school+ Q10_2Hours use computer, weekends+ Q31How often eat fast food
3. Index of Drugs= Range 0 (no use) to 9 (more use) Q81CMarijuana in last 30 days+ Q74Smoke tobacco presently
4. Index of Alcohol= Range 0 (no use) to 10 (more use) Q79Gotten really drunk+ Q76BPast 30 days drunk alcohol

Micro-System Protective and Risk Factors:

5. Index of Friendship Circles= Range 2 (not involved) to 23 (more involved) Q57Days spend w/ friends after school+ Q58Nights spend w/ friends+ Q78DFriends use marijuana+ Q78BFriends drink alcohol
6. Index of Mother/Female Guardian= Range 0 (less involvement) to 20 (more involvement) Q51CKnows where after school+ Q51AKnows friends+ Q50CEasy to talk w/ problems+ Q54Satisfied w/ family relationships
7. Index of Father/Male Guardian= Range 0 (less involvement) to 20 (more involvement) Q52CKnows where after school+ Q52AKnows friends+ Q50AEasy to talk w/ problems+ Q54Satisfied w/ family relationships

Meso-System Protective Factors:

8. Index of Academic Engagement= Range 3 (less satisfied) to 13 (more satisfied) Q61Teacher opinion school performance+ Q62Feelings about school+ Q63CStudents accept me as I am

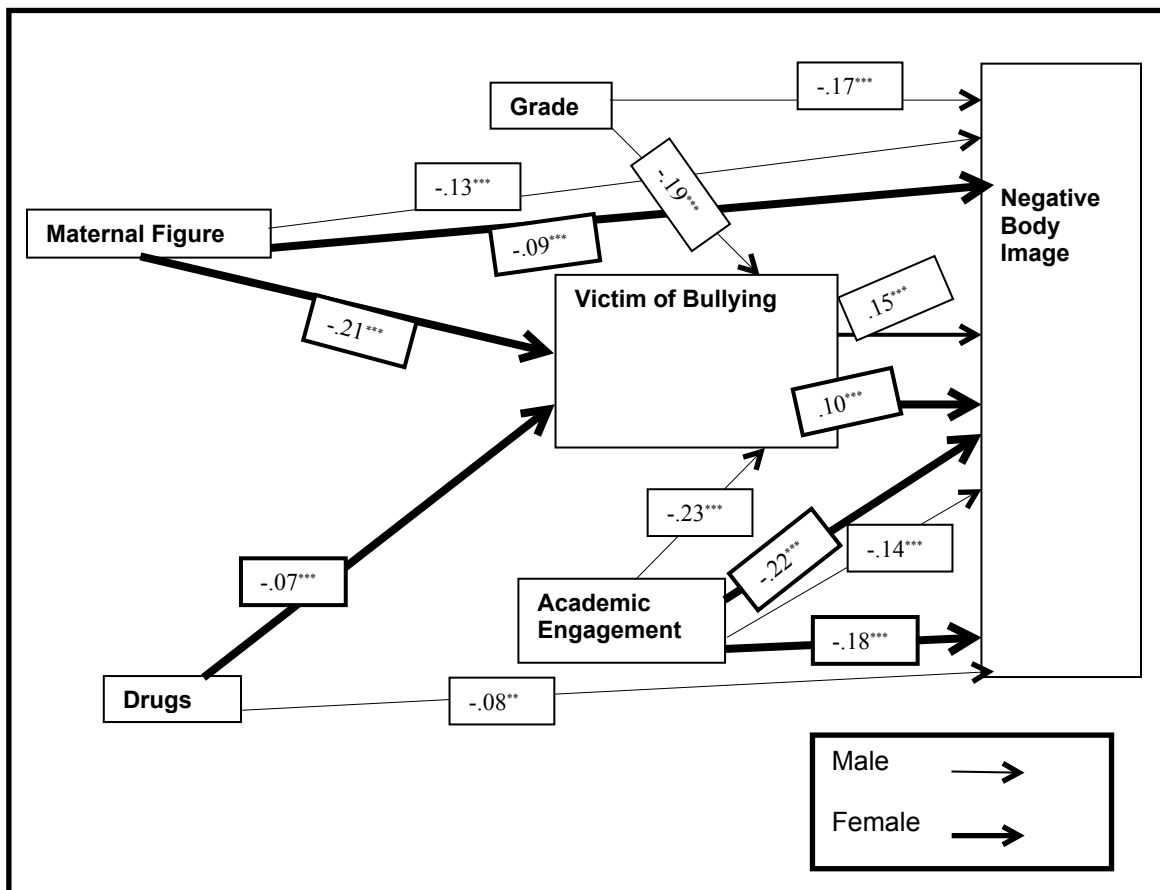
Meso-System Risk Factors:

9. Index of Victim of Bullying= Range 0 (no bullying) to 12 (more bullying) Q65Got bullied at school+ Q66CGot hit/kicked/pushed+ Q66JGot bullied using computer/email outside school

¹⁰. Grade Grade 5 – 10; Race/Ethnicity Hispanic/Latino=0, Non-Hispanic/Latino=1; Nationality Non-U.S. Citizen=0, U.S. Citizen=1.

In addition to the gendered direct effects of youth agency, micro-system and meso-system adults and peers on negative body image, interesting gendered indirect effects were evident on negative body image, through bullying. There was only one indirect pathway to protecting against negative body image for boys: males who were academically engaged → experienced less bullying ($\beta = -.23^{***}$) and less bullying → the more positive their body image ($\beta = .15^{***}$). In contrast, the indirect bullying pathways were more complicated for females. For one, similar to boys, academically engaged girls were less likely to be victims of bullying ($\beta = -.21^{***}$) and in turn had better body image ($\beta = .10^{***}$). But, girls were indirectly protected against negative body image when they had mothers who protecting them against bullying; mother protected female adolescents against bullying ($\beta = -.09^{***}$) and in turn (through bullying mitigation) against negative consequences in body image ($\beta = .10^{***}$). Drug use, on the other hand, increased girls' chances of being bullied ($\beta = .07^{***}$) and indirectly negatively affected their body image ($\beta = .10^{***}$). These relationships are modeled in Figure 1.

Figure 1. Gendered Regression (β) Effects of Youth Agency, Micro- and Meso-System Protective and Risk Factors, and Youth Demographics on Negative Body Image^{1,2}



^{***} $p \leq .001$; ^{**} $p \leq .01$; ^{*} $p \leq .05$.

¹. See Table 2 for variable coding and index construction;

². Non-significant effects not shown are: Health Activity, Alcohol, Friendship Circles, Paternal Figures.

Finally, the net variations (after controlling for parents/guardians) in bullying and negative body image (after controlling for bullying and parents/guardians) across the different demographics considered in this study yielded additional insights. Irrespective of parent protection and bullying, younger males (Grade $\beta = -.17^{***}$) and younger females (Grade $\beta = -.19^{***}$) were less likely to be victims of bullying.

To summarize, youth agency, micro- and meso-system factors (specifically positive maternal figure, academic engagement, less bullying) directly protected adolescents against negative body image. Some of these protective factors also indirectly shaped body image positively by reducing the negative consequences of bullying. Relevant to the central premise of this research about gendered differences: Female negative body image models varied from male models both in the complexity and salience of protective and risk factors.

The professional interviewees offered observations that endorsed and elaborated on negative body image of youth, particularly female youth. A counselor (Interviewee #1) and psychologist (Interviewee #2) had both noticed younger girls starting to recognize or talk about body image earlier than boys. The counselor had seen white females suffering from negative body image more so than other groups, although Hispanic/Latina females were not completely immune; and in her experience, older girls (Grades 7-8) were often more dissatisfied with their bodies. Interestingly, she added, “The majority of both boys and girls who were overweight tend to have negative body image, regardless of grade, race and/or ethnicity.”

The physical education teacher/coach (Interviewee #3) added, “It has been my experience that many students who have an eating disorder or are compulsive to a fault about exercising are high achieving young ladies; often with lots of pressure to be perfect.” He saw this to be a middle-class, Caucasian female students phenomenon. To further spotlight gender differences, a psychologist who was interviewed (Interviewee #5) commented based on her research on university aged students 18-23, “[Negative body image is] very common, estimated 70% of female students I meet with in therapy have some level of body image concern, and likely 50% of males students do as well. Probably 30% of female clients have significant concerns.” He attributed the gender differences to a set of more complex reasons for females than males reinforcing the regression findings. He elaborated, for girls the most common reasons were: “cultural socialization to reach and maintain some sort of perfect body, negative feedback from peers/romantic partners about their body, negative feedback from parents about their body, and history of bullying.”

The interviewees added more insights about negative body image of female adolescents. The social studies teacher (Interviewee #4) said, “For many females, school is a fashion show and beauty competition. I’m sure that kids are constantly comparing themselves to their peers, and I’m certain it has a role in shaping many students’ self-esteem. To a certain extent, physical appearance dictates social status/group acceptance, and kids are well aware of who fits in where/with whom.” Furthermore connecting body image to bullying, the social studies teacher continued, “Kids can be really cruel to one another, especially when they are themselves insecure

about their appearance. I have seen this most often among girls, who sometimes project their body image expectation, again from advertising and media, onto others, and it only takes one cutting remark to devastate a kid's sense of self-worth."

The direct and indirect roles that parental figures played in shaping adolescent's body image were endorsed by two school professionals who were interviewed for this research. To quote the school psychologist (Interviewee #2), "I think parent/guardian involvement is what lays the groundwork for a healthy self-esteem and body image. Without it, children are more likely to depend on their peers for support and acceptance, which can result in skewed perspectives. I think parents are the first models that children see for how to talk and think about your body. For instance, a young child sees his/her mother obsess over weight or father consistently degrade himself for being weak. These become the building blocks for how they perceive themselves."

Other professionals also elaborated on the parent-child negative body image connection. The health education teacher (Interviewee #6) noted, "Parental attitudes about weight are powerful and long lasting. In my experience, a student really struggling with weight issues or body image has some significant parental influence surrounding this." The psychologist (Interviewee #5) added, "Negative feedback from parents is reported as connected to negative body image."

The place of peer bullying in negative body image was another recurring theme in the interviews. A psychologist interviewee (Interviewee #5) who has observed the close connection between what happens in school and negative body image, commented thusly: "The biggest reason students report body image concerns to me in therapy is due to a history of bullying." He continued, "Most students with more severe negative body image report a significant history of negative feedback about their body alongside reinforcement of this negative feedback by others as they grow older, the media, and the culture around them." The two school counselor/psychologist interviewees expanded on some reasons for the bullying-body image connections. The first school counsellor (Interviewee #1), while endorsing the growing phenomenon of bullying in the lives of young students also noted, "I believe that the pervasive (media) portrayal of bullying behavior, the prevalent use/access to the Internet, social media, the ubiquitous use of phones for taking photos and videos to be posted/shared, and the impersonal/immediate nature of texting and communicating by means other than person to person" give rise to bullying behavior. The second school psychologist/behavior specialist (Interviewee #2) added: the day-long exposure to peers as well as to social media has made school bullying an additional factor in adolescent body image.

Speaking to the complex place of bullying, parents, and media in female body image were a health education teacher (Interviewee #6), a physical education teacher/coach (Interviewee #3), and a high school social studies teacher (Interviewee #4). The health education professional described media sources as "promoting an 'idealized' view of what is beautiful, sexy, masculine, and hip. Unfortunately, most young people do not measure up to the standard... The ways in which this standard plays out in a young person's daily life can add to the insult through bullying, teasing, and social rejection in various forms." "Media influence is definitely a factor," noted the high school social

studies teacher; “Businesses use models with rare/unrealistic body types, not to mention image manipulation and Photoshop, to advertise products to teens. The media perpetuates these myths in television and film productions, creating in teens an unreasonable expectation of how they should ideally look.” He went on to say, “Every year I have several students suffering with eating disorders, and many more who are, in my opinion, overly focused on their physical appearance. If I had to guess, I would say that possible a quarter of teens at my school are affected by negative body image.”

There were also counter perspectives on the female and protective parent narratives on adolescent body image. For example, the high school health teacher (Interviewee #6) noted: “Sadly, I believe negative body image is one of the most common concerns for both males and females, beginning in early adolescence.” However, while negative body image “seemed as though this was a ‘female’ issue, we need to have our eye on what negative body image might mean for boys. She added, “As a health teacher, I am really tuning into male body image issues, including eating disorders. I am definitely seeing an increase with my own male students, and I really wonder why this appears to be changing.” She suggested studying and targeting middle school boys, who seem to be at the root of the issue, since they seem to better identify with body issues compared to years ago. The physical education teacher/coach, while corroborating the notion that media and peer relationships worsened adolescent body image, hastened to add that: “strong or controlling parents can [also] negatively influence an individual’s self-image.” In his experience, many students in physical education classes often do not try or work very hard due to a poor self-image already instilled in their mind [from home] and the fear of standing out and “looking funny.”

In short, both the quantitative and qualitative analyses underscored the critical roles that parents/guardians played in protecting adolescents from school bullying. As predicted, parents proved to an important line of defense against reducing the negative consequences of bullying in adolescent lives. This research also showed that positive academic engagement was a strong protector from school bullying. Gender differences were also observed. For females, there were noticeably more complex pathways that led to negative body image. In contrast, these indirect pathways to negative body image were much simpler for males.

THEORETICAL IMPLICATIONS

In summary, the quantitative research and supplemental qualitative interviews have added to and expanded on the extant literature about negative body image and adolescents in at least four ways. First, parents/guardians did act as a protective buffer against school bullying victimization. Second, parents/guardians also indirectly protected their adolescents from the negative body image consequences of being bullied. These two protectants were seen most significantly through the protection of a maternal figure. Third and most significant, positive academic engagement also acted as a protective buffer against being bullied. Fourth, positive academic engagement also indirectly protected adolescents from negative body image consequences of being bullied. Thus, education professionals and other practitioners who are tasked with

stemming the negative consequences of school bullying, body image, and related health problems among adolescents need to focus on schools and parents/guardians in their health promoting efforts. Additionally, it was important to focus on both male and female youth, gender similarities and differences, and how body image affects each gender separately.

The multivariate findings supported all three hypotheses and their underlying theories. As expected from the Iowa School of self-concept and gendered identity frameworks, parent/guardian relationships had a more positive impact on the body image of females than males. At the same time, as per the Chicago School of self-concept framework, layered with gendered identity, being a victim of school bullying had a stronger negative impact on female body image than male body image. Parents/guardians offered adolescents protection against negative body image by indirectly shielding them from the negative consequences of bullying. But, parent/guardians protected females, more than males, against negative effects of school bullying and body image.

CONCLUDING REMARKS

This research showed that strong parent/guardian bonds, particularly the maternal figure, had a positive impact on body image. Also, being a victim of school bullying had a negative impact on body image. That both these effects were more salient for girls illustrated the gendered dynamics in body image socialization. Additionally, the indirect gendered pathways were more complex for females than for males. For example, the more academically engaged boys were, the less bullying they experienced, and in turn, a more positive body image. As for females, in addition to academic engagement, strong maternal relationships protected them from school bullying, which led to more positive body image. The narrative commentaries endorsed the quantitative findings. Yet, there is still much to be explored. The adjusted R^2 for the male and female negative body image models were only 0.12^{***} and .17^{***}. But the extant analyses indicated avenues for future research. For one, it would be advantageous to focus on measurement issues, such as using more robust and fuller indicators to define the protection offered by maternal relationships and academic engagement. Many interviewees also noted media influence on adolescent negative body image; with the growing use of technology, social media, and other media by adolescents, there needs to be renewed focus on how this medium might be negatively targeting adolescents if we are to limit their seemingly powerful presence. Using longitudinal designs to track the adolescent's development through their teenage years and into adulthood will also offer needed insights into the sustained influences of successful parenting and positive academic engagement.

APPENDICES

Appendix A. Table
Demographics
Health Behavior in School-Aged Children 2009-2010
(Male n=5547-5858; Female n=5394-5673)

Concepts	Dimensions	Variables	Response Values	Statistics	
				Male	Female
Demographic Controls	Grade	Q4. What grade are you in?	5= Grade 5 ¹	11.9% ^{**}	12.3% ^{**}
			6= Grade 6	15.7	15.9
			7= Grade 7	18.2	19.9
			8= Grade 8	21.5	18.4
			9= Grade 9	16.9	17.6
			10= Grade 10	15.7	15.9
	Race/Ethnicity	Q5. What do you consider your ethnicity to be?	0= Hispanic or Latino ¹	28.4%	27.7%
			1= Not Hispanic or Latino	71.6	72.3
	Nationality	Q85. Were you born in the United States?	0= No ¹	8.8%	8.3%
1= Yes			91.2	91.7	

^{***} p ≤ .001; ^{**} p ≤ .01; ^{*} p ≤ .05.

^{1.} Recoded from original numerical codes.

Appendix B

Consent Form and Interview Protocol

Consent Form

Interview Date and Time: _____

Respondent ID#: __ (1-6)

Dear _____:

I am a Sociology Senior working on my Research Capstone Paper under the direction of Professor Marilyn Fernandez in the Department of Sociology at Santa Clara University. My research focuses on negative body image among school-aged children and the roles that physical activity, parents, bullying, and drugs/alcohol play in shaping children's body image.

You were selected for this interview, because of your knowledge of and experience working in the area of health and adolescence. I am requesting your participation, which will involve responding to questions about negative body image and will last about 20 minutes. Your participation in this study is voluntary. You have the right to choose to not participate or to withdraw from the interview at any time. The results of the research study may be presented at SCU's Annual Anthropology/Sociology Undergraduate Research Conference and published (in a Sociology department publication). Pseudonyms will be used in lieu of

Appendix C

Correlation Matrix: Indices of Negative Body Image, Youth Agency (Health Activity, Drugs/Alcohol), Micro-System Protective/Risk Factors (Friendship Circles, Maternal and Paternal Figures), Meso-System Protective/Risk Factors (Academic Engagement, School Bullying), Youth Demographics (Grade, Non-Hispanic/Latino, U.S. Citizen)
(Male n=5421-5858) (Female n=5337-5673)

		F	E	M	A	L	E							
	Negative Body Image	Health Activity	Drugs	Alcohol	Friendship Circles	Maternal	Paternal	Academic Engagement	Victim of Bullying	The Bully	Grade	Non-Hispanic/Latino	U.S. Citizen	
	Negative Body Image1	1	-.10***	.10***	.14***	.05***	-.34***	-.30***	-.32***	.17***	.09***	.14***	-.05***	-.01
	Health Activity2	-.09***	1	-.10***	-.14***	.20**	.22***	.20***	-.04**	-.14***	.23***	.06***	.02	
	Drugs3	.01	-.11**	1	.53***	.31***	-.25***	-.22***	-.20***	.13***	.23***	.20***	-.04**	-.02
	Alcohol4	.05***	-.11***	.61***	1	.37***	-.29***	-.27***	-.22***	.10***	.25***	.26***	-.06***	-.03*
M	Friendship Circles5	-.03*	-.06***	.38***	.39**	1	-.13***	-.15***	-.11***	.06***	.20***	.24***	-.05***	-.01
A	Maternal6	-.24***	.13***	-.22***	-.21***	-.09***	1	.79***	.43***	-.17***	-.18***	-.23***	.08***	.02
L	Paternal7	-.22***	.17***	-.20***	-.19***	-.10***	.76***	1	.41***	-.14***	-.16***	-.24***	.10***	.01
E	Academic Engagement8	-.25***	.11***	-.18***	-.18***	-.07***	.40***	.39***	1	-.25***	-.19***	-.19***	.01	-.02
	Victim of Bullying9	.21***	-.06***	.08***	.07***	.01	-.14***	-.12***	-.25***	1	.34***	-.09***	.00	-.01
	The Bully10	.11***	-.13***	.29***	.29***	.25***	-.18***	-.17***	-.19***	.33***	1	.02	-.03	-.02
	Grade11	.04**	-.14***	.23***	.26***	.28***	.20***	-.21***	-.14***	-.11***	.05***	1	-.01	-.02
	Non- Hispanic/ Latino11	-.08***	.02	-.02	-.02	-.07***	.05***	.05***	.03*	-.03*	-.07***	.05***	1	.15***
	U.S. Citizen11	-.04***	.07***	-.06***	-.04**	-.03*	.05***	.04**	.03*	-.05***	-.07***	.01	.19***	1

*** p ≤ .001; ** p ≤ .01; * p ≤ .05.

1. Index of Negative Body Image= Q8Thoughts on your body+ Q37Presently on a diet+ Q38AFrustrated with appearance+ Q38DFeel comfortable with body;
2. Index of Health Activity= Q20Out of breath, free time+ Q23Mode of travel to school+ Q10_2Hours use computer, weekends+ Q31How often eat fast food;
3. Index of Drugs= Q81CMarijuana in last 30 days+ Q74Smoke tobacco presently;
4. Index of Alcohol= Q79Gotten really drunk+ Q76BPast 30 days drunk alcohol;
5. Index of Friendship Circles= Q57Days spend w/ friends after school+ Q58Nights spend w/ friends+ Q78DFriends use marijuana+ Q78BFriends drink alcohol;
6. Index of Mother/Female Guardian= Q51CKnows where after school+ Q51AKnows friends+ Q50CEasy to talk w/ problems+ Q54Satisfied w/ family relationships;
7. Index of Father/Male Guardian= Q52CKnows where after school+ Q52AKnows friends+ Q50AEasy to talk w/ problems+ Q54Satisfied w/ family relationships;
8. Index of Academic Engagement= Q61Teacher opinion school performance+ Q62Feelings about school+ Q63CStudents accept me as I am;
9. Index of Victim of Bullying= Q65Got bullied at school+ Q66CGot hit/kicked/pushed+ Q66JGot bullied using computer/email outside school;
10. Index of The Bully= Q67Bullied another student+ Q68CHit/kicked/pushed others+ Q68JBullied using computer/email outside school;
11. Grade Grade 5 – 10; Race/Ethnicity Hispanic/Latino=0, Non-Hispanic/Latino=1; Nationality Non-U.S. Citizen=0, U.S. Citizen=1.

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