Sociocultural Influences on Body Image Discrepancy Experiences and Psychological Well-Being in Canadian School-Age Boys and Girls

Susan L. Buchanan, M. A.

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Sociocultural Influences on Body Image Discrepancy Experiences and Psychological Well-Being in Canadian School-Age Boys and Girls

by

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A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of Manitoba in partial fulfillment of the requirement of the degree

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Abstract

The main objectives for this research were to (1) develop measures of body image discrepancy designed to assess both male and female body image experiences, (2) document the prevalence of body image discrepancy in school-aged children and adolescents in Manitoba, and (3) examine relationships between sociocultural and individual influences on body image discrepancy, psychological well-being, and body size change strategies. Male (1181) and female (1125) students in Grades 5 through 12 attending nine schools in Manitoba, Canada, participated in the survey. The Body Image Perceptions Scale for Children (BIPS-C; Sande & Buchanan) provided two indices: the direction of body image discrepancy (BILIN) and the absolute discrepancy from feeling "just right" (BIABS). The BIPS-C demonstrated high internal reliability, ease of use for survey research, good comprehension and meaningfulness for students. The majority of female students reported seeing themselves as too big (66.9%). Whereas, almost equal numbers of male students reported seeing themselves as too small (40.2%) or too large (37 %). Overall, the students reported experiencing little body focussed criticism, moderate levels of psychological well-being, and few body size change strategies. For both genders, body image discrepancy, with its associated vulnerabilities and negative psychological sequelae, is already established by Grade 5. These findings highlighted children's vulnerabilities to cultural messages about the ideal body image and specifies etiological factors implicated in the development of body image concerns. The implications of these findings will be discussed in the context of future research with students and health education programming for male and female students.

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Body image is a complex, multidimensional construct that has generated a considerable body of research. Much attention has focussed on elucidating the meaning of body image (for a comprehensive review see Cash & Pruzinsky, 2002; Thompson, 2003, 1996; Thompson & Smolak, 2001; Thompson, Altabe, & Tantleff-Dunn, 1999). However, there continues to be an eclectic mix of body image measures used in current research. This study was undertaken, in part, to further a definition and measure of body image discrepancy that is inclusive of males' and females', children's and adolescents' body image experiences. The cross-sectional survey reported here included questionnaires specifically developed by Sande and colleagues for the purpose of assessing body image experiences in the general population.

There continue to be gaps in our understanding of gender differences or similarities, age-related changes, and the relationships between sociocultural factors, body image, and psychological well-being. As such, this study attempted to document the occurrence, magnitude, and developmental trends of body image discrepancy experienced by school-aged boys and girls in Manitoba. In conjunction with the measurement of body image discrepancy, this study attempted to identify the interrelationships of sociocultural pressures and individual factors on body image discrepancy and the influence of body image discrepancy on psychological well-being and body size change strategies.

What is Body Image?

Despite years of research and discussion, a standard definition of body image has

not been agreed upon (for a comprehensive review, see Thompson, 2003). Garner, Garfinkel, and Moldofsky (1978) define body image as, "the mental image that a person has of the physical appearance of his body" (p. 250). Subsequently, researchers started to recognize the affective component of body image. In 1987, Gleghorn, Penner, Powers, and Schulman postulated that the body image construct not only referred to perceptions of the person's body, but also to feelings about their body.

More recently, McElhone, Kearney, Giachetti, Zunft, and Martinez (1999) stated, "Body image represents an individual's subjective experience with his or her body and the manner in which he or she organizes this experience. It plays a major role in self-concept, a complex structure that embraces not only the body but also social and personal relationships" (p. 144). This multifaceted definition reflects the most recent ideas about a multifactor body image construct. However, there remain almost as many published definitions of body image as there are studies of body image (for a comprehensive review, see Cash & Pruzinsky, 2002; Thompson, 2003; Thompson et al., 1999).

Correlational and factor analytic studies indicate a high degree of overlap among the affective, cognitive, and behavioral aspects of body image. Many authors are proposing that these subjective indices of body image should be considered as one index called body image dissatisfaction (e.g., Stormer & Thompson, 1996; Thompson, Altabe, Johnson, & Stormer, 1994; Thompson et al, 1999; Williamson, Barker, Bertman, & Gleaves, 1995). Body image dissatisfaction has been conceptualized as a continuum ranging from unconcern with weight and normal eating, to "normative discontent" with weight and moderately disregulated eating, to the severe experiences of body image disturbance and

eating disorders (Attie & Brooks-Gunn, 1989; Striegel-Moore, Silberstein, & Rodin, 1986; Wertheim et al., 1992). Thompson (1999) proposed that the lower to moderate end of the continuum of body image dissatisfaction actually may be beneficial by motivating healthy exercises and regulated eating behaviours.

It is beyond the scope of this study to completely review the literature on different conceptualizations of body image (for a comprehensive review see Heinburg,1996, Thompson et al., 1999; Thompson, 2004). An overview of the published literature on body image as a concept indicates that various terms seem to overlap with what is often referred to as body image dissatisfaction. Our position is that body image dissatisfaction arises from the discrepancy between the person's self-perception of his or her actual body and an idiosyncratic ideal body image. As such, body image discrepancy self-ratings are viewed as the key element for measuring body image experiences. The following is limited to a brief discussion of the literature assessing body image discrepancy as assessed by figures and silhouettes, and body image dissatisfaction ratings.

The Measurement of Body Image

The variability in measures of body image published to date is astounding. Thompson (1995; Thompson et al., 1999) reviewed the literature on the measurement of body image. He outlined approximately 100 published measures of body image, yet researchers also continue to use non-standardized, simple indices of body image. For example, some researchers simply recorded the difference between present weight and ideal weight as the sole measure of body image (e.g., deCastro & Goldstein, 1995). According to a number of authors, most instruments are poorly developed

psychometrically and are too narrow in focus (e.g., Thompson, 1995; Thompson et al., 1999). Moreover, the key issue underlying this plethora of assessment measures is that they represent the current diversity in the definitions of body image. Recent evaluations of the various assessment instruments concluded that body image is a multifactorial construct comprised of two distinct components: affective evaluation and cognitive/behavioural investment (Muth & Cash, 1997; Thompson et al., 1999; Williamson et al., 1995). The following discussion of body image assessment is limited to body image discrepancy and dissatisfaction as measured by figure drawings and self-report measures.

Body image discrepancy drawings and silhouettes.

There is a class of body image measures that require participants to choose two images, one that looks the most like them and another that they would most like to look like. The scales consist of seven to nine body figure drawings (Fallon & Rozin, 1985; Thompson & Psaltis, 1988) or silhouettes (Williamson, 1990) ranging from very thin to very obese. Different sets of drawings have been developed to represent various ages: toddlers (Thompson, 1995), young children (Collins, 1991; Tiggemann & Pennington, 1990), middle-aged children (e.g., Dowdney, Woodward, Pickles, & Skuse, 1995), adolescents (Phelps et al., 1993), adults (Stunkard, Sorenson, & Schlusinger, as cited in Tiggeman & Wilson Barrett, 1998), and the elderly (Thompson, 1995). This measure of body image discrepancy is the degree of difference between the body figures chosen to represent the actual body figure and the ideal body figure.

One argument advanced for the use of drawings as an index of body image

discrepancy is the ease of use (Williamson, 1990). McCabe and Marwit (1993) support the use of drawings in assessing body image in younger children because of its conceptual simplicity. Drawings of children's images have been adopted for use with 8- to 12-year old children (Collins, 1991; Thompson, Corwin, Rogan, & Sargent, 1999) and even with 7-year old children (Edlund et al., 1996).

Recently, researchers using the silhouettes and drawings started asking participants to indicate their affective body image rating such as, "How do you feel you look?" in addition to the usual procedure of indicating their cognitive body image rating, "How do you presently look?" and their ideal body image rating, "How does your ideal body look?" Tiggeman (1994) reported that there were significant differences in the discrepancy scores between the figures chosen on the basis of how they felt rather than how they thought they currently looked. Again, these researchers have recognized the importance of addressing the individual's affective experience of their body image (Bergstrom, Stenlund, & Svedjehall, 2000; Tiggeman, 1994).

In the opinion of the author, this type of body image questionnaire simply does not capture the individual variability in human physical appearance. The human body is extremely variable in its size, shape, and color, so the participant is not able to fully apply these images to their own body image. The participant may look at the set of drawings and say, "my legs are longer", "my skin is darker", or "my chest is larger", etc. Thus, the participants' ability to cognitively apply these objective body images to their own self-perceived body image is limited, thereby limiting the validity and the accuracy of the measure (Buchanan, 1996; Sande & Buchanan, 1994).

Body image dissatisfaction.

Body image dissatisfaction is a subjective measure of body image often obtained by self-ratings of dissatisfaction with overall appearance and/or including ratings of specific body areas (for a comprehensive review, see Thompson, 1995; Thompson & Smolak, 2001). One of the most widely used clinical scales assessing body image, the Eating Disorder Inventory-Body Dissatisfaction scale, is based on body dissatisfaction ratings of various areas of the body (Garner, Olmstead , & Polivy, 1983). Other measures of body dissatisfaction include the Body Areas Satisfaction Scale (Wichstrom, 2000). In many reviews of body image assessment, body image dissatisfaction is labeled as the emotional response to body image discrepancy. Rosenblum and Lewis (1999) described the self-evaluative nature of body image as a function of the "goodness of fit" between the self-evaluation of one's body, one's expectations of the physical self, and the perceived evaluations of others.

Some researchers have used weight dissatisfaction ratings as the measure of body image dissatisfaction. For example, Cash, Winstead, and Janda (1986) surveyed the primarily North American readers of Psychology Today and reported that 55% of the readers surveyed were dissatisfied with their present weight. In an investigation of physical activity and body satisfaction in men, approximately 80% of all men, exercisers or not, were dissatisfied with their current weight (Davis & Cowles, 1991). Researchers have long noted that peoples' evaluation of their physical attractiveness is not always weight-related (e.g., Rosen, 1995). Therefore, it appears that body image concerns are not accurately represented by BMI or weight dissatisfaction ratings. That is, body

dissatisfaction is, in part, focussed on shape and appearance features other than weight.

Cafri and colleagues (2005) summarized the literature on men's strategies for changing body size, including dieting to lose weight and dieting to gain weight. That is, alternative eating and behaviours are utilized to lose body weight from fat and to gain body weight from muscle. As a result, the mesomorphic body ideal for men would not be adequately assessed by the measure of overall body weight or BMI. As suggested by recent research, body weight and BMI have been found to be only weakly associated with weight loss behaviours (e.g., McCabe & Ricciardelli, 2003a; Vincent & McCabe, 2000) and not associated at all with gaining weight and muscularity behaviours (e.g., McCabe & Ricciardelli, 2001a; 2003a).

Self-perceived body image discrepancy.

What happens when a person's physical appearance does not meet the societal standards of physical attractiveness? Higgins' (1989) self-discrepancy theory states that people hold internalized views of themselves and compare this self-view to internalized self-standards called "self-guides". Self-guides are the standards that people strive to attain, including the ideal self and the ought self. The ideal self is what people want to be, and the ought self is what people feel they should be. It is the discrepancy between the self-view and these self-guides which leads to negative emotions and ultimately to decreased psychological well-being (Higgins, 1989; Scott & O'Hara, 1993).

Higgins postulated that the degree and type of discrepancy between the actual self and the self-guides directly influence the person's psychological well-being. Researchers have reported that significant discrepancies between the actual self and the ought self lead

to increased feelings of agitation, including shame, guilt, and fear. Specifically, inconsistencies between the actual self and the ideal self led to increased feelings of dejection, including sadness, dissatisfaction, and disappointment (Scott, & O'Hara, 1993; Strauman, 1992; Alexander & Higgins, 1993). These authors argued that ultimately such discrepancies can lead to depression, anxiety, and lower self-esteem.

For illustrative purposes, think of the following scenario. A man looks in the mirror and evaluates what he sees. He has accepted a muscular and lean body shape as the ideal body. He feels that he should have a mesomorphic body shape, with large muscles and little body fat. The discrepancy between what he sees in the mirror and what he accepts as an ideal body is experienced every time he looks into the mirror, every time he observes himself, and every time he thinks that someone else is evaluating his appearance. This man may exercise with weights four to six hours a day, ingest various muscle building supplements, and maintain a restrictive diet. He may wear baggy clothing that hides his body and avoid going to the beach or gym where attention may be drawn to his body. When he can't work out or when he pinches the fat on his stomach, he feels awful about himself. How else do you think this impacts him? Where does this ideal body image come from?

In this research, body image discrepancy is defined as what we think and feel about how our body looks in comparison to an idiosyncratic ideal body image (Buchanan, 1996). This self-perceived body image ideal is derived from the acceptance and internalization of the ideal body valued by society and by the person's immediate sub-culture of peers, parents, and family. Body image discrepancy is the difference between

this ideal body image and the idiosyncratic self-perceived body image. This is conceptualized as the difference between the self-perception of how you presently look and how you think and feel you should look. The emotional response to this real/ideal discrepancy is on a continuum of body image satisfaction or dissatisfaction.

In an attempt to accurately measure this self-perceived body image, we developed the Body Image Perceptions Scale (BIPS; Sande & Buchanan, 1994). In responding to the items of the BIPS, the participant applies his or her perception of what his or her body presently looks like in comparison to a self-prescribed body image ideal. This self-perception is subjective and as such is subject to the individual's own biases and distortions. This is what we consider to be the key process and concept for understanding body image, an idiosyncratic and subjective perception. Thus we argue that the BIPS accurately captures our self-perceived body image, including what we think, how we feel, and how we respond to our body image.

Another key component of the BIPS is the manner in which the total score is calculated. The BIPS score is calculated as an absolute discrepancy score, calculated by taking the absolute value of each participants' deviation from "just right" and then summing across the eight items. This results in a score that represents the amount of deviation from the ideal body image.

Historically, researchers equated body image discrepancy, disturbance, or dissatisfaction with the desire for thinness. This may be due to the fact that interest in body image dissatisfaction arose in the phenomenology of eating disorders. That is, unidirectional measures previously used in body image research did not address the

bidirectional and bimodal nature of male body image experiences (e.g., Buchanan, 1996; Kostanski, Fisher, & Gullone, 2004; Rosenblum & Lewis, 1999; Sande & Buchanan, 1994). Consequently, using the sum or average score for body image measures actually masked the presence of high levels of body image disturbance for men by averaging scores across men. That is, when researchers averaged the body image scores, the men who report feeling "too big" cancel out the men who report feeling "too small". Preliminary investigations, which included males in the survey samples, of children (ages 10 to 16), university students, and university alumni (ages 17 to 68) have supported these conclusions (Buchanan, 1996; McDonald, 1998; Read, 1999; Sande & Buchanan, 1994). Currently, the vast majority of researchers have noted the bimodal nature of body dissatisfaction and body size change strategies (e.g., Cafri et al., 2005; Drewnowski & Yee, 1987; Kostanski et al., 2004; McCabe & Ricciardelli, 2001a; McCreary & Sasse, 2000; Ricciardelli & McCabe, 2003a; Smolak, 2004). That is, some males perceive themselves as too large, and some males perceive themselves as too small. However, to date, studies continue to be published that conclude, males, no matter their size, consider themselves ideal (e.g., Beene & Hutchinson, 2005).

Over the past ten years, Sande, Buchanan, and colleagues (Buchanan, 1996; McDonald, 1998; Read, 1999; Sande & Buchanan, 1994) have developed measures to examine the nature of body image including measures of body image discrepancy and dissatisfaction, body size changes behaviours and attitudes. The present study was designed to obtain a clearer idea of body image experiences among school-age male and female children and adolescents living in Canada.

Prevalence of Body Image Concerns

Previously reported prevalence rates for body image concerns vary greatly due to the differences in populations being surveyed and differences in the measures used, as previously discussed. The following section is an overview of the prevalence estimates for body image concerns across gender and across ages. This is followed by a brief discussion of surveys that have been conducted in other countries or with people of diverse backgrounds.

Prevalence of body image concerns for women.

How do women experience body image? Previous research has repeatedly demonstrated that a pervasive dissatisfaction with body image is 'normative' in women (Polivy & Herman, 1987; Rodin, 1992; Rodin et al., 1985). It has been estimated that only five percent of the female population naturally meets society's ideal body image for women: having small breasts, a small waist, a flat abdomen, small hips, and small thighs (Crook, 1992). This means that 95 percent of women do not naturally meet this standardized ideal body image. Crook stated, "This does not make us (women) abnormal. It makes our definition of normal too narrow." (p. 43). In the opinion of the author, this statement would be more accurate if it were worded as follows: "This does not make women abnormal. It makes our definition of ideal abnormal and unattainable."

Often times, researchers and authors discuss the "normative discontent" women experience with their bodies in today's culture (Polivy & Herman, 1987; Rodin, 1992; Rodin et al., 1985). According to Rodin, the increasing prevalence of body image disparagement and weight discontent can be considered a normal part of the female

experience. This often cited term continues to be widely cited and repeated in the literature and popular culture of today.

The prevalence estimates of body image discrepancy for women have ranged from approximately 50% in a National U.S. survey (Cash & Henry, 1995) to 85% in Canadian female college students (Buchanan, 1996). In previous investigations, Sande and Buchanan (1994; Buchanan, 1996) have demonstrated that 82% to 87% of female university students report a significant body image discrepancy. Read's (1999) investigation of adult females between the ages of 17 and 68 years old showed that approximately 84% of women reported considerable body image discrepancy and that this was stable across all age groups.

Over the past four decades, we have seen the image of the ideal female body become thinner and leaner (for a comprehensive review see Thompson, 2004; Thompson et al., 1999). The cultural standard of thinness for women is in direct opposition to the current trend for increased body-weight and increased average body size in the United States (Flegal, Carroll, Odgen, & Johnson, 2002; Garner et al., 1980; Mazur, 1986; Wiseman, Gray, Mosimann, & Ahrens, 1992) and Norway (Storvoll, Strandbu, & Wichstrom, 2005). Thus, this preoccupation with thinness is creating an ever widening discrepancy between the person's actual body size and society's ideal image of the thin woman. However, a recently published investigation of a 19-year, cross-sectional examination of body-image in college women and men documented different trends in body image (Cash, Morrow, Hrabosky, & Perry, 2004). This data revealed two trends for women, a worsening of body image self-ratings, followed by consistent improvements.

For men, the body image self-ratings remained consistent across the 19-years.

Prevalence of body image concerns for men.

How do men experience body image? As seen in the mass media today, North American society defines the mesomorphic body as the ideal adult male body. The mesomorphic ideal for men is a muscular body with little body fat, so the upper body has a broad chest, large shoulders and arms, and a flat stomach. How many men can attain this ideal body image? Is this ideal also abnormal and unattainable for men?

Prior to the late 1980s, a common assumption made in the body image and eating disorder literature was that men did not experience body image dissatisfaction (e.g., Fallon & Rozin, 1985; Striegel-Moore et al., 1986). In the 1990s, this assumption was discussed and evaluated in the literature (e.g., Drewnowski, Kurth, & Krahn, 1995; Drewnowski & Yee, 1987; Sykora, Grilo, Wilfley, & Brownell, 1993; Thompson, 1995; 1996). Less discussed though was the narrow standard of physical attractiveness for men. Watson (2000) stated, "Being overweight is clearly manifested in body image, and for the men in this study, does have some significance in terms of spoiling male identity, in that it blurs the "muscular" male figure" (p. 86). Watson's subjects described being an overweight man as "breaking down the male figure to a shape that parodies the female body form" (p. 85). For these men, the culturally-ideal male body image was perceived as the normal masculine shape, and their deviation from this ideal threatened their "masculine self-identification".

Although the drive for muscularity is not a new phenomenon, historically, it was under-researched and under-reported in the body image literature. For example, Cohn and

Adler (1992) cite 1966 and 1959 articles that outlined the male desire for larger biceps, shoulders, and chest. Additionally, in 1986, Mishkind, Rodin, Silberstein, and Striegel-Moore stated that men were moving further along the continuum of bodily concern. These earlier articles illustrated that this is not a new concern for men, but a previously ignored one. In the late 1980s and early 1990s, researchers concluded that society's fitness consciousness applied as much to men as much as to women and acknowledged that muscularity is a widely accepted ideal for men (Brenner & Cunningham, 1992; Drewnowski et al., 1995; Mishkind et al.,1986; Striegel-Moore et al., 1986). Traditional stereotypes focus on physical fitness for men, defining a socially desirable male to be one who is powerful, strong, active, lean, and athletic (Jackson, Sullivan, & Rostiker, 1988; Mishkind et al., 1986; Sullivan & Harnish, 1990). Tucker (1982) noted that the muscular male is viewed by others as more successful and as possessing more favorable skills and personality traits than less mesomorphic men. It is now widely accepted by researchers that the social standard for bodily attractiveness for men is much more muscular than the average male body shape (e.g., McCreary & Sadava, 2001).

The body image dissatisfaction prevalence rates for men have ranged from approximately 25% in a National U.S. survey (Garner, 1997) to 83% in Canadian male college students (Buchanan, 1996). Over the past 10 years, an increasing body of evidence has documented body image concerns among men and boys (e.g., Buchanan, 1996; Cohane & Pope, 2001; Drewnowski & Yee, 1987; Furnham & Calman, 1998; Hildebrandt, Langenbucher, & Schlundt, 2004; McCabe & Ricciardelli, 2001a; 2001b; 2003b; 2003c; 2004a; 2004a; 2004b; McCreary & Sasse, 2000; Pope, Phillips, and

Olivardia, 2000; Read, 1999; Smolak, 2004; Smolak, Murnen, & Thompson, 2005; Thompson & Smolak, 2001). In previous investigations, Sande and Buchanan (1994; Buchanan, 1996) demonstrated that overall 78% to 84% of male university students report a considerable body image discrepancy (with an average of 27% reporting being "too big" and an average of 56% reporting being "too small"). Read's (1999) investigation of adult males between the ages of 17 and 68 years old reported that approximately 81% of men reported considerable body image discrepancy (with an average of 31% reporting "too big" and an average of 51% reporting "too small"). The direction of body image discrepancy changed across the age groups as more young men felt too small and more older men felt too big. This suggests that men desire a body which is larger if they are thin, or smaller if they are heavy.

Muscle dysmorphia has been described as a condition, primarily in men, which is equivalent to anorexia nervosa for women. Muscle dysmorphia (MD) occurs when muscular men perceive themselves as thick (i.e., muscles are not defined or 'cut') or underdeveloped (Pope, Gruber, Choi, Olivardia, & Phillips, 1997). This belief is accompanied by an extreme drive for muscularity (McCreary & Sasse, 2000). For males, this is not only a drive to reduce body fat, but also a drive to increase muscle size (for a comprehensive review see Cafri et al., 2005; McCabe & Ricciardelli, 2004a; 2004b; Pope et al., 2000; Smolak, 2005).

A review of studies conducted by McCabe and Ricciardelli (2000 to 2005) reveals that a substantial body of evidence now exists to establish the fact that men and boys experience significant body image concerns. McCabe and Ricciardelli (2004c) reported

similar levels of body dissatisfaction and body experiences as was reported by Sande and colleagues. Moreover, McCabe and Ricciardelli reported that the associated body change behaviours, both exercise and dieting behaviours, designed to enhance muscularity and reduce body fat are functionally similar to eating disordered behaviors. Similarly, McCreary and Sasse (2002) reported that 21 % of adolescent men are dieting to increase weight/ muscle size , while 12.5% are dieting to decrease weight. The psychological consequences of these body change behaviours are similar to eating disorders, including social isolation, depression, and anxiety, as well as similar adverse health effects (Cafri et al., 2005; McCabe and Ricciardelli, 2004c).

Body image concerns across cultures.

The following is a brief discussion of cross-cultural differences that only relate to the effects of exposure to North American culture as communicated through the mass media. Recent reports have suggested that body image concerns and disordered eating patterns are emerging in non-Western nations with increased exposure to Western society's body shape ideals (e.g., Altabe, 1996; Davis & Katzman, 1998; Mumford, Whitehouse, & Choudry, 1992; Nassar, 1988; Thompson et al., 1999). For example, a number of studies have demonstrated that the female Chinese population living in Hong Kong is at significantly less risk for weight concerns, dieting behavior, and anorexia nervosa than female Chinese immigrants living in Australia (Gunewardene, Huon, & Zheng, 2001), or female non-Chinese immigrants living in Hong Kong (Lee, Chiu, & Chen, 1989). Recently, Mautner, Owen, and Furnham (2000) reported that women in Hong Kong reported greater body dissatisfaction and more depression, while men in

Hong Kong reported greater weight dissatisfaction (the majority of men wished to be larger) than did their counterparts in Beijing, China. Davis and Katzman (1997) concluded, "There appeared to be a caricatured mimicking of the bodies perceived to be associated with the Western culture - men wanted to be larger while the women wanted to be even more petite" (p. 102). Furthermore, epidemiological studies conducted in Middle-Eastern countries have reported that weight concerns and compensatory behaviors are now more common in adolescent girls in Tehran, Iran (Nobakht & Dezhkam, 2000), Israel (Newmark-Sztainer, Palti, & Butler, 1995), and Egypt (Nassar, 1994). Finally, women in Hong Kong and Australia reported similar levels of body dissatisfaction and eating disturbance, even though the Hong Kong women were thin by 'western' standards (Sheffield, Tse, & Sofronoff, 2005).

One hypothesis proposed to explain this effect is the degree of acculturation to a standardized body shape ideal for racial-ethnic cultural groups within and outside of North America (Davis & Katzman, 1998; Story et al., 1994). Acculturation has been defined as the modification of a person's customs, habits, language, life style, and value orientations because of contact with a different culture. Dolan (1991) proposed that the incidence of eating disorders increased in non-Western women entering Western society when they assimilated the new society's norms and values, including those specific to the ideal female body shape and size. American-born Hispanic women reported greater weight dissatisfaction than foreign-born Hispanic women in a sample of 13- to 18- year old adolescents (Siegel, Yancey, Aneshensel, & Schuler, 1999). There is also evidence that immigrant females are more likely to develop weight and body image concerns, and

eating disordered behaviors than their counterparts in their country of origin. For example, Kenyan college students living in Britain for at least four years reported greater body image discrepancy and eating disordered behaviours than same-age college students residing in Kenya (Furnham & Alibhai, 1983). In addition, 12% of female Arab college students living in London, England developed eating disorders, where as none of the women living in Egypt did (Nassar, 1986). Thus, these studies supported the notion that Western countries value a thinner body image.

A further demonstration of the prominent role social and cultural factors play in the perception of ideal body shapes was a survey of 16 families (106 people) of the Pennsylvania Old Order Amish. The Amish are a Protestant religious community living in North America, but living separate from the Western industrialized society (Platte, Zelten, & Stunkard, 2000). Among the young Amish men and women (14-22 years), the actual and ideal weights were the same and dieting was not reported. This is the same-age group that is at the greatest risk for eating disorders in North America.

Together, this evidence may reflect an increased cultural acceptance of 'mainstream sociocultural pressure towards thinness' for women which, in turn, would lead to the increased prevalence of eating disordered behavior in cultures around the world that are exposed to similar media (Altabe, 1996; Lee & Lee, 2000; Nassar, 1988; Robinson et al., 1996). The majority of cross-country comparison studies include only females participants, so parallel cross-country comparisons for men remain under investigated. These studies support the theory that body image disturbance and disordered eating behaviors are at least partially socioculturally determined.

This cross-sectional study assessed a relatively large sample of students within the same geographic region in Canada and within a discrete period of time. Our intention was to account for potential influences of the sociocultural messages these students were exposed to by including additional variables measuring media use. In addition, we did not include an indices of ethnicity, because we focussed on the influences of the mass media and the social environment specific to messages about body image. These sociocultural messages about body image would be relatively consistent for students living in the current North American culture.

Prevalence of body image concerns for children and adolescents.

The following is a brief discussion of body image concerns in children. In recent years, the importance of identifying factors implicated in the early development of body image has led to research with very young children. Recently, this increasing attention to children as young as 5- to 7-years-old has resulted in the discussion of measurement validity and reliability, and risks associated with testing young children (for a comprehensive review, see Ricciardelli & McCabe, 2001a; Smolak, 2004). It was decided to restrict the current study to investigate 'older' children (10-years old and older), because of the author's concerns about limited reading skills and limited comprehension of the research instruments in the survey. Moreover, in the opinion of the author, asking questions about body image concerns, dieting behaviours, and depressive symptomatology posed an unacceptable risk for young children. Previous researchers have questioned the ethics of asking survey questions of children who likely would not be thinking about these negative emotional and behavioural events. Huon, Godden, and

Brown (1997) suggest that young children are more readily, negatively influenced by questions about dieting and other related behaviours.

It is generally recognized that body image is an essential construct in the etiology of eating disorders. For example, the Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition (DSM-IV; American Psychiatric Association, 1994) includes some aspect of body image disturbance in the diagnostic criteria for Anorexia Nervosa, Bulimia Nervosa, and Body Dysmorphic Disorder. Stice and Shaw (1994) argue that disturbed eating behaviours begin when we compare ourselves unfavorably with the (thin) ideal body image promoted in the media. Halmi, Zleifield, and Wagner recently reported that the incidence of eating disordered behaviours, unhealthy exercise behaviours, and the use of appearance enhancing substances is higher than ever before (as cited in Rudd & Lennon, 1999). In addition to this, we can now physically modify our bodies with exercise, diet, nutritional or pharmacological enhancing substances, and plastic surgery.

A considerable body of research, both empirically and clinically based, has largely focussed on the body image experiences of women, girls, and eating disordered patient populations (e.g., Dolan & Gitzinger, 1994; Rodin, 1992; Rodin, Silberstein, & Striegel-Moore, 1985; for a comprehensive review see Thompson, 1995; Thompson et al., 1999). However, a number of more recent studies have examined body image concerns and its related attitudes and behaviours among both male and female adolescents and children (e.g., Cafri et al., 2005; McCabe, Ricciardelli, & Finemore, 2002; Smolak & Levine, 2001; Thompson & Smolak, 2001). Moreover, a growing number of studies now report that ever younger children are engaging in dieting behaviours, (e.g., Edlund, Halvarsson,

& Sjoden, 1996; Jones, Bennett, Olmstead , Lawson, & Rodin, 2001; Smolak, Levine, & Schermer, 1999; Tiggemann & Wilson-Barrett, 1998), and behaviours to increase body size or muscle size (e.g., McCabe & Ricciardelli, 2001b; McCreary & Sasse, 2000; McCreary, Sasse, Saucier, & Dorsch, 2004; Ricciardelli & McCabe, 2001a; 2002; Wroblewska, 1997). These findings highlight the need to identify the specific developmental influences on body image for school-aged girls and boys.

Wood, Becker, and Thompson (1996) stated that because physical appearance is a concrete means of knowing and describing oneself, body image may be one of the first characteristics children incorporate as part of their self-concept. For example, Gardner, Sorter, and Friedman (1997) demonstrated that children as young as 6-years old can accurately identify their current body size. In addition, 5-year old children have expressed fear of becoming obese (Feldman, Feldman & Goodman, 1988; Shapiro, Newcomb, & Burns Loeb, 1997), expressed dislike of an obese body build (Kirkpatrick & Sanders, 1978), and expressed unwillingness to play with obese children (Strauss, Smith, Frame, & Forehand, 1985). Furthermore, 9-year old children attribute negative characteristics such as poor social functioning, impaired academic success and low perceived health to other children with overweight body sizes (Hill & Silver, 1995). In recent years, a growing body of evidence suggests that children as young as 7- and 8- years old report dissatisfaction with their bodies, concern about becoming overweight, and attempts to change their body size through diet or exercise (for a review, see Ricciardelli & McCabe, 2001a; Smolak, 2004).

Of great concern is the finding that body weight concerns and dieting behaviours are

common among very young children. For example, a survey of 7-year old Swedish girls reported that 25% had body weight concerns and tried to lose weight by eating less (Edlund et al., 1996). In addition, research with 8- to 10-year-old children from the Los Angeles area reported that 7% of the boys and 11% of the girls reported throwing up on purpose after eating, and 10% of the boys and 13% of the girls reported 'always' trying to lose weight by going on a diet (Shapiro et al., 1997). Of the 10-year old children in their sample, more than half reported exercising to lose weight 'always' (22% of girls and boys) or 'half the time' (43% boys and 54% girls).

Furthermore, in a survey of 244 Australian school children age 8- to 12- years old, 39% of the females and 26% of the males wanted to be thinner than they perceived themselves to be (Rolland, Farnill, & Griffiths, 1996). These researchers then divided the sample into quartiles based on the distribution of the Body Mass Index. In the overweight children, 76% of the females and 56% of the males wanted to be thinner. In the underweight children, 10% of the females but none of the males wanted to be thinner. Rolland and colleagues concluded that the desire to be thinner has 'infiltrated the youngest generation' with the prevalence rate highest among females.

Previous studies have consistently indicated that girls report greater body image dissatisfaction and more negative body image than boys (e.g., Duncan, Al-Nakeeb, & Nevill, 2004; McCabe, Ricciardelli, & Finemore, 2002; Neumark-Sztainer et al., 2002; Smolak & Levine, 2002). For example, Duncan and colleagues noted differences in body esteem according to gender and identity, with boys and African American children reporting higher body esteem than girls and Asian children, respectively. Furthermore,

children with a higher body mass index (BMI) or percentage of body fat expressed a stronger desire to be thinner and greater body image dissatisfaction than the low BMI or low body fatness children (Edlund, Sjoden, & Gebre-Medhin, 1999; Duncan et al., 2004).

In a three year longitudinal study, Gardner, Friedman, and Jackson (1999) asked 216 male and female children at the ages of 6, 9, and 12 to respond to a video image of their body. The research was designed to separately measure perceptual disturbance and body dissatisfaction. Body dissatisfaction was measured as the discrepancy between how children perceive their body size and their judgement of how they would like to look ideally. In the first year of a 3 year project, the children made judgements about both their perceived size and their ideal size, and responded to measures of body esteem and history of childhood teasing (Gardner, Sorter, & Friedman, 1997). Results of this study showed that children were accurate in estimating their body size, with no differences across genders, age groups, or ethnic groups. However, Gardner and colleagues reported that with progressing age, the idealized body size became thinner and female children reported an increasing body dissatisfaction.

In the second year of the study, 94% of the children were retested and other measures were added to allow for prediction of body size estimations and body image dissatisfaction (Gardner et al., 1999). Results of the second study showed that at all ages children wanted to be thinner. Moreover, the researchers indicated that after age nine, gender differences were increasingly present. Males indicated a preference for small decreases in their body size, however females showed an increasing preference to be smaller with 13 year old females wanting to be 5% thinner than their actual size. Males

reported lower levels of body dissatisfaction that did not change with increasing age. However, females reported much greater levels of body dissatisfaction which increased further in the older females (13 years old). Gardner and colleagues (1999) pointed out that the variables included in their research intended to predict body image, such as self-esteem, body esteem, teasing history, parental concerns, family demographics, and socioeconomic variables, actually accounted for very little of the variance in body size estimation and body dissatisfaction. Similarly, in McCabe and Vincent's (2003) examination of biodevelopmental and psychological factors, only a small proportion of the variance in extreme weight loss behaviours was explained. It appears that further research is necessary to determine which other factors may be concomitants of body dissatisfaction and body change behaviours.

In previous cross-cultural surveys of body image and eating disorders, body weight and BMI are not strong correlates of body dissatisfaction ratings (e.g., Lee & Lee, 2000). For example, in a cross-sectional study of high school students in Israel, Brook and Tepper (1997) reported that 53% of 14 to 18 year old students (n = 141) desired to be thinner, and 48% were on weight reduction diets. However, only 10% of the students' BMI fell within the overweight range. In addition, in an investigation of nutritional knowledge, health beliefs, and body image of high school students in Australia (n=391, average age is 15.8 years old), 54% of girls and 21% of boys considered themselves overweight including 20% of the leanest girls and 8% of the leanest boys (Gracey, Stanley, Burke, Corti, & Beilin, 1996). In a comparable study of high school students in Australia, Nowak reported that 52% of adolescent girls and 27% of adolescent boys

wanted to lose weight. However, based on epidemiological data for Australian adolescents, only 9% to 15% of adolescents are actually overweight according to their BMI (Harvey & Althaus, 1993, as cited in Nowak, 1998). In addition, Cooper and Goodyear (1997) investigated the prevalence and significance of weight and shape concerns and disordered eating behaviours in a community survey of British school girls aged 11- to 16-years old. The prevalence of significant concerns about weight and shape increased with age, ranging from 14 % of 11- to 12-year old girls to 19% of 15- to 16-year old girls. Similarly, the prevalence of dietary restraint and food avoidance increased with age, ranging from 7% of 11- to 12-year old girls to 12% of 15- to 16- year old girls.

Previous researchers have reported that approximately 42% of adolescent boys were dissatisfied with their weight (Moore, 1990, as cited in Brook & Tepper 1997), and 33% to 40% were dissatisfied with the shape of their body (Nowak, 1998). Lawrence and Thelen (1995) investigated weight concerns and dieting in third- and sixth-grade girls and boys. The results indicated that sixth-grade boys, but not third-grade boys, reported negative feelings about their physical appearance with heightened overweight concerns. However, there was no associated increase in dieting behavior. Lawrence and Thelen recognized that their definition of diet did not include behaviors such as exercise, anabolic-androgenic steroid (AAS) use, or muscle-building substance use (i.e., Creatine), which are behavioural responses to boys' greater concern with increasing muscle mass, rather than overweight status.

Recent investigations of the drive for muscularity have documented the prevalence estimates for these at-risk behaviours (for a comprehensive review, see Cafri et al., 2005;

McCabe & Ricciardelli, 2001a; 2004a). These authors propose that the use of muscle-enhancing substances is analogous to food restriction among eating disordered females, in that both are extreme behaviours adopted to attain an ideal body. Importantly, researchers are now focusing on identifying risk factors that may predispose some individuals to more readily engage in these harmful behaviours.

An extensive literature has examined links between various risk factors and body image dissatisfaction or disturbance for adolescents and children. The following discussion is limited to those factors that are implicated in the social-cognitive theories of attitude formation. This includes a brief examination of sociocultural factors (i.e., sociocultural standards of appearance, the influence of the media), developmental factors (i.e., body criticism and teasing from parents and peers), and personality characteristics (i.e., perfectionistic standards and cognitions).

Etiology of Body Image

Despite the substantial body of literature on body image that now exists, our understanding of the formation of body image is far from complete (for a comprehensive review see Smolak, 2004; Thompson, 2003; Thompson et al., 1999; Thompson & Smolak, 2001). Researchers have investigated individual psychological factors such as perfectionism (e.g., Geller, Srikameswaran, Cockell, & Zaitsoff, 2000; Hewitt, Flett, & Ediger, 1995; Wilson, 1995; Wonderlich, Fullerton, Swift, & Klein, 1994), family characteristics (e.g., Kanakis & Thelen, 1995; Moreno & Thelen, 1993a; Pike & Rodin, 1991; Smolak et al., 1999), biodevelopmental (e.g., McCabe & Vincent, 2003), and developmental experiences (e.g., Levine, Smolak, Moodey, Shuman, & Hessen, 1994;

Ricciardelli, McCabe, & Banfield, 2000) in an attempt to outline the etiology of eating disorders. However, as previously mentioned, the pattern of individual characteristics and experiences do not adequately account for the variance in body change behaviours (e.g., Barker & Galambos, 2003; McCabe & Ricciardelli, 2003b).

As a result, the current trend in research is to consider integrated body image theories investigating sociocultural influences, individual psychological factors, and/or biological factors (for a comprehensive review see Smolak, 2004; Smolak & Levine, 2001; Thompson et al., 1999). The majority of previous studies have tended to focus on biological factors (e.g., BMI, pubertal timing) and individual factors (e.g., perfectionism, need for social approval, ineffectiveness, self-esteem). Concurrent to the completion of this research, a considerable body of evidence has been generated to investigate more comprehensive multifactorial theories of body image, including the Tripartite Model of Body Image (Kerry, van den Berg, & Thompson, 2004; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999) and the biopsychosocial model of disordered eating (Ricciardelli & McCabe, 2004). However, the most empirically supported theory for the cultivation and persistence of body image disturbance is the sociocultural theory (Thompson et al., 1999).

Therefore, the purpose of this current investigation was to examine the correlates and/or risk factors associated with body image discrepancy based on sociocultural theory. What follows is a brief discussion of classic theoretical perspectives from the field of social psychology, such as social learning theory (Bandura, 1977) and social comparison theory (Festinger, 1954) that relate to the pervasiveness of body image dissatisfaction and eating pathologies. For example, the observation of thin-ideal media messages produces a

strong emotional response to the woman's own body including dissatisfaction, depression, and anxiety (e.g., Borzekowski, Robinson, & Killen, 2000; Groesz, Levine, & Murnen, 2002; Turner, Hamilton, Jacobs, Angood, & Dwyer, 1997). These responses in turn motivate a behavioral response of dietary restraint and extreme exercising which have been identified as precursors to eating pathologies (e.g., Brownell & Fairburn, 1995; Rodin, 1992; Thompson, 2003). An extensive literature has reported the prevalence of body image concerns and eating disordered behaviours for adolescent and, more recently, older children (e.g., Banasiak, Wertheim, Koerner, & Voudouris, 2001; Williamson & Delin, 2001). How do children learn about what society says is beautiful? Social-cognitive Theories help explain how body image is communicated to children, how it is learned, and how it is incorporated into a child's self-concept.

For the current research study, sociocultural factors were based on Levine and Smolak's (1994) four components of the sociocultural theory. First, images of the ideal woman, as portrayed in the mass media, became thinner and thinner while at the same time the average weight of women in North America became heavier and heavier. Second, the thin ideal body shape is no longer just an image of beauty, but also symbolizes success professionally and personally. Third, girls and women have been led to believe that this thin ideal is attainable through diet and exercise. The 'normative discontent' of women's body image is seen as the internalization of these messages (Polivy & Herman, 1987; Rodin et al.,1985). Fourth, subcultures that emphasize the importance of slenderness, body shape, and perfectionist achievement greatly increase the risk of unhealthy eating and exercising behaviours. The current research attempted to

extend these sociocultural factors to explain the development of body image discrepancy in children, including boys and girls.

Social-Cognitive Theories

Consider the theoretical formulation of the social-cognitive conceptualization as applied to body image development in children. Children see the differential treatment of "beautiful people" such as the positive and successful qualities ascribed to them, and the social rewards of praise, admiration, and popularity. Children also see the differential treatment of "overweight people" or "fat people" who are treated in just the opposite manner. Children not only witness this differential treatment in television shows and movies, but also on a continual basis in their immediate social environment of peers and family.

The basic conceptualization of the social learning theories is that children learn their attitudes through the observation and imitation of the behavior of others, perceived powerful others (Bandura, 1977). One application of social learning theory has been to understand the process of learning aggressive attitudes. Bandura (1973; 1977) reported that children who observe others acting aggressively and rewarded for their aggression are more likely to imitate that aggression if they are placed in similar circumstances. Moreover, children learn the lesson and come to hold the attitude that aggression is permissible behavior. This is one of the central reasons for the concern expressed over the high levels of aggression depicted in the media (e.g., Gerbner, Gross, Jackson-Beech, Leffries-Fox, & Signorielli, 1978; Liebert & Sprafkin, 1988).

Bandura's reformulation of social learning theory to social-cognitive theory

emphasized the personal determinants of psychosocial functioning and the central role of cognitive, vicarious, self-regulatory, and self-reflective processes (Bandura, 1986). The social portion of this theory addresses the social origins of human thought and action. The cognitive portion addresses the influential causal contribution of thought processes to human motivation, affect, and action. Social learning is a primary process in the formation of attitudes. Attitudes are defined as enduring mental representations of various features of the social and physical world. Attitudes can be acquired through social learning or they are learned directly through personal experience. Subsequently, these acquired attitudes exert a directive influence on behavior (Bandura, 1986).

Social attitudes toward physical attractiveness.

Society in general holds a widespread set of beliefs regarding physical attractiveness. The "what-is-beautiful-is-good" stereotype (Dion, Berscheid, & Walster, 1972) states that physically attractive people are ascribed a wide range of positive characteristics. Attractive people are seen as more intelligent (Lerner, Delaney, Hess, Jovanovic, & von Eye, 1990), more successful, more sexual (Durran, 1973), more socially skilled, and more emotionally stable (Feingold, 1992a; 1992b). For example, one investigation reported that physically attractive people were rated as more suitable for hiring, for promotion, and for a higher starting salary as marketing representatives and secondary school teachers (Musumeci, 1996).

Researchers have repeatedly demonstrated that physically attractive people are liked more than unattractive people by all ages and groups of people (e.g., Fisher, 2004; Langlois, 1986; Langlois et al., 1987; Langlois et al., 2000; van Leeuwen & Macrae,

2004). For example, first and sixth grade students chose attractive teacher photographs as depicting the nicest, happiest, and prettiest teachers, the teachers they felt they would learn the most from, and the ones they would prefer for a teacher. Students chose the unattractive teacher photographs as representing teachers who would punish their students more when they misbehaved (Hunsbeger & Cavanaugh, 1988). Similar findings were reported in a meta-analysis of student physical attractiveness effects on various judgements made by teachers. Specifically, the literature review revealed that physically attractive students were usually judged more favorably by teachers in ratings of intelligence, academic potential, grades, and social skills. At the age of 12 months, infants are more likely to approach an attractive than a less attractive female stranger (Langlois et al., 1987). More striking is the finding reported by Langlois, Ritter, Casey, and Sawin (1995) that mothers of more attractive infants showed them more affection and were more playful with them than were mothers of unattractive infants.

Children in our society grow up with the prevalent cultural standards equating beauty and thinness, and they see the social benefits of thinness and the negative stereotypes associated with "excessive weight" (Flannery-Schroeder & Chrisler, 1996; Goldfield & Chrisler, 1995). Children see this, not only on the television or in magazines and movies, but in their everyday lives in society. Five- and six-year old children prefer to play with thin dolls rather than overweight dolls (Dyrenforth, Wooley, & Wooley, 1980). Hsu (1989) concluded that by the time children are seven- or eight- years old, their concepts of physical attractiveness are very similar to those of older adolescents. We could conclude that children not only learn the lesson of "what is beautiful is good", but

that they also incorporate it into their belief systems.

Influence of television media on attitude formation.

Throughout history, artists' conceptions of the human figure have dominated the walls of the wealthy and the cultural centers of society. Today, this fascination with beauty remains. We live in a culture that emphasizes the importance of physical appearance. Now the images of beautiful people are transported electronically by the mass media, on a continuous basis, into millions of homes all over the world. What follows is a brief discussion of the mass media and how it relates to the communication of North American ideals of attractiveness and body image.

Many authors and researchers have postulated that the reason for the pervasiveness of this stereotype is the persuasiveness of the entertainment media (Crook,1992; Silverstein, Perdue, Peterson, & Kelly, 1986; Wolf, 1991). A large body of evidence has demonstrated the influence of television on the attitudes and opinion of viewers, as reported in any advertising, marketing, or social psychology textbooks (e.g., Myers & Spencer, 2004; Peter, & Olson, 2005; Singer, & Singer, 2000). It is a major source of information about the world for adults and children alike. The business of changing attitudes, as in advertising and marketing, is also a multi-billion dollar industry, in magazines and on television. The mass media is used in the "art of persuasion" for everything from what brand of cola you drink to what political candidate you vote for to which charity you donate money to.

The marketing and advertising industry, governments and politicians, and activist groups all carefully manipulate the factors that maximize their power of persuasion.

However, the influence of the mass media is even more widespread, because it has been shown to even change the attitudes of people who were not directly exposed to the original source of information (Schofield & Pavelchak, 1989). In this way, television has been shown to be a source of major social change. Consider what the societal impact has been for the public to see the events of September 11, 2002, or the invasion of Iraq, and more recently, the impact of the tsunami on the countries and peoples of Southeast Asia, only to name only a few examples.

Research has demonstrated that popular and attractive communicators are more persuasive in changing attitudes than unpopular or unattractive ones (e.g., Munson & Kiesler, 1974; for a review, see Myers & Spencer, 2004; Peter, & Olson, 2005). This is one reason why attractive television personalities are used in advertising campaigns for everything from running shoes to Presidential candidates in the United States. Consider the Canadian politicians who have "enhanced" their personal appearance (e.g., Stephen Harper) or carefully manipulated their media presentation (e.g., Stockwell Day) in an attempt to broaden their appeal and change the attitude of the populace.

Social attitudes also serve a social identity function - this permits individuals to express their identity and values, or the values of the reference groups to which they would like to belong (Feldman, 1998). In the entertainment industry, the beautiful people are portrayed as intelligent, successful, rich, sexual, popular, charismatic, and powerful. The majority of celebrity images we are exposed to on a daily basis are also images of exceptionally beautiful people. These people have carefully groomed images in the media that are designed to promote this attitude.

Commenting on the masculine images in the media, Watson (2000) states that, "the body shapes portrayed in advertising are artificial creations that explicate and transmit cultural and social values regarding masculinity and health" (p. 117).

The stigmatization of fat.

Covell Breseman, Lennon, and Schulz (1999) examined how fat discrimination and prejudice are surfacing in today's society. For the past 25 years, the socially acceptable prejudice is against people who are obese, called 'sizism' (Crandall, 1994; Crandall & Biernat, 1990; Ressler, 1998). The small group of overweight people in the media are usually portrayed with many negative attributes (e.g., George Costanza from Seinfeld, or Mimi of the Drew Carey Show). People who are obese are often portrayed in this manner on television shows and in the movies. There is emerging consensus that this attitude is propagated not only by the media, but communicated through parents, family, coworkers, and peers (Covell Breseman et al., 1999; Guiney & Furlong, 2000; Levine & Smolak, 1994; Thompson & Smolak, 2001).

Through social feedback, the views others have of us come to influence the views we have of ourselves (Lerner & Jovanovic, 1990). Obese people are stigmatized, teased, ostracized, and rejected (Crocker, Cornwell, & Major, 1993). "Our society - our friends and relatives, our classmates, neighbours, the people around us, our media - is convinced that thinness is good, fat is bad" (Crook, 1992; p. 43). Researchers have reported that children as young as 5- or 6- years old consistently associate unfavorable qualities with overweight body types (Kirkpatrick & Sanders, 1978). Recent studies have demonstrated that children's attitudes about themselves are closely related to their body shape (e.g.,

Guiney & Furlong, 2000; Lawrence & Thelen, 1995; Ricciardelli & McCabe, 2001a; Wood et al., 1996). However, McCabe and Vincent's (2003) study of biodevelopmental and psychological factors concluded that it is the psychological variables (i.e., depression, anxiety, perfectionism, and self-esteem) that are significant predictors of extreme disordered eating behaviours.

What happens when children experience this appearance discrepancy in the mirror? In a survey of 10- to 16-year old Dutch children, the majority of overweight children reported lower self-esteem scores on self-ratings of physical appearance, athletic competence, social acceptance, and global self-worth compared to normal weight children. Huon and Brown (1989) stated that the fear of becoming fat is the issue behind body image disturbance for most individuals with eating disorders. Similarly, other researchers have proposed that body image dissatisfaction is not only a preference for thinness, but an underlying intense fear of fatness (e.g., Williamson, 1990; Williamson, Davis, Goreczny, & Blouin, 1989). Brook and Tepper (1997) stated that obesity is also frequently accompanied by negative emotions such as shame, stress, and guilt.

Dysfunctional body image attitudes and eating behaviours appear to result from or be mediated by sociocultural attitudes of thinness as attractive for females (Barker & Galambos, 2003; Cooper & Fairburn, 1993; Dolan & Gitzinger, 1994; Smolak, 2004). There is evidence that these sociocultural attitudes are important determining factors in the development and prevalence of bulimia nervosa specifically (Stice & Shaw, 1994; Stice, Ziemba, Margolis, & Flick, 1996). The impact of this attitude of thinness as attractive was demonstrated in the outcome of a prevention program focussed on reducing

this thin-ideal internalization (Stice, Mazotti, Wiebel, & Agras, 2000). This educational program resulted in reduced acceptance of the thin-ideal, and decreased body dissatisfaction, dieting, negative affect, and bulimic symptoms.

Mitchell and Eckert (1987) suggested that the prevalence of these disorders could be dramatically reduced if cultural attitudes could be modified. Shisslak, Crago, Neal, and Swain (1987) proposed that primary prevention models should be focussed on educating children, parents, and families. One example of a prevention program based on an education model was developed at Stanford University. The university course was entitled "Body Traps: Perspectives on Body Image" which was based on Rodin's (1992) book by the same name (Perkins & Taylor, 1999; Springer, Winzelberg, Perkins, & Taylor, 1999). This 10 week academic course with university students was designed and investigated as a primary prevention program for eating disorders. This course has now been adapted to be a web-based course for high school students and undergraduate students at Stanford University (Winzelberg et al., 1998). The online program is ongoing, and has resulted in improved body image and reduced disordered eating attitudes and behaviours for hundreds of students.

Educational and school-based interventions to prevent the development of disordered eating behaviours and attitudes have been strongly recommended (for a comprehensive review, see Thompson & Smolak, 2001). However, most psychoeducational prevention programs designed to change attitudes and behaviours generally have not been successful (Moreno & Thelen, 1993b). Springer and colleagues (1999) stated that the primary reason for the success of their school-based program was

their academic and nonpersonal perspective for the course. This may have minimized the participants' defensiveness or resistence to exploring these issues. Thompson (1990) concluded his comprehensive review of the body image and eating disorders literature by stating the following:

> We must begin to empirically address our societal view that women must be thin to be attractive...How can we teach people to disregard irrational expectations that are fostered by sociocultural factors? How might we intervene to change the association between thinness and acceptability portrayed in advertisements, articles, TV shows, and movies? Unless we develop answers to these questions, I see a further increase in body image disturbance in the female members of our society - and no end to their ongoing struggle to live up to an impossible ideal. (p. 105).

Consistent with a growing body of evidence, I would extend Thompson's rationale to men's and children's body image experiences.

Sociocultural Messages of Body Image

Many researchers have argued for the importance of the message and the power of the messenger in influencing not only what we consider beautiful, but also how we measure up against that standard of beauty. Furthermore, researchers have stated that in North American culture today there is a general acceptance of the attitude that in order to be successful you must have an attractive body. When do children internalize this cultural ideal? Faust (1983) argues that "the cultural ideal of physical attractiveness begins to be acquired early in the preschool years, and by the time children are 7- or 8- years of age, their judgements about physical attractiveness are very similar to those made by older

adolescents" (p. 115). Heinberg, Thompson, and Stormer (1995) stated that this sociocultural influence on the development and maintenance of body image disturbance is widely acknowledged, but rarely studied. Over the previous 10 years, researchers have now focussed on the predisposing risk factors that contribute to the development of body image in young children (for a comprehensive review, see Ricciardelli & McCabe, 2004; Ricciardelli, McCabe, Holt, & Finemore, 2003; Smolak & Levine, 2001; Thompson & Smolak, 2001).

Influence of the media.

From authors of popular books to theorists and researchers in scientific publications, the popular media have been repeatedly and publically accused of being a source of propaganda promoting the stigmatization of fat and the "importance of thinness" messages for women and young girls (cf., Dolan & Gitzinger, 1994; Rudd & Lennon, 1999; Waller & Shaw, 1994; Wolf, 1991). Research has supported these authors' views that magazines and television are used as sources of information about weight control (Levine, Smolak & Hayden, 1994). For example, 41% of Australian and 62% of American female high school students used magazines as their single most important source of information on diet and health (Paxton et al., 1991; Levine & Smolak, 1994).

Research has revealed that the awareness and internalization of society's thin-ideal for women predicts the onset of binge eating (Stice & Agras, 1998) and level of bulimic symptomatology (Irving, 1990; Pike, 1995). For example, Griffiths and colleagues (1999) studied an Australian sample of females diagnosed with Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Eating Disordered Not Otherwise Specified (EDNOS) and controls.

Patients were found to have internalized sociocultural standards of appearance to a greater extent than members of a control population. However, only the subjects diagnosed with BN and EDNOS were found to be more aware of the sociocultural standards for appearance. The subjects diagnosed with AN were not found to differ from the control population on the sociocultural awareness subscale.

Recent research has reported contradictory findings in investigations of regular media exposure in adolescent populations. In one study investigating total media use by ninth-grade girls, use was not significantly related to perceived importance of appearance or weight concerns (Borzekowski et al., 2000). However, when types of media use were looked at, the number of weekly hours of watching music videos was related to both perceived importance of appearance and weight concerns. In another study, Tiggemann and Pickering (1996) also reported that the overall amount of television watched did not correlate with body dissatisfaction or drive for thinness. However, when the type of television program was evaluated, exposure to the soaps, movies, and sport events predicted body dissatisfaction, and music videos predicted drive for thinness (Tiggemann & Pickering, 1996).

Several studies have demonstrated that young women's exposure to media images of attractive or "idealized" females models has a detrimental and acute effect on body dissatisfaction (Hamilton & Waller, 1993; Hargreaves & Tiggemann, 2004; Turner et al., 1997) and self-esteem (Irving, 1990). For example, Irving (1990) demonstrated that American university women experienced an immediate drop in self-esteem after viewing slides of thin models from fashion magazines. Turner and colleagues (1997) reported that

women who viewed fashion magazines preferred to weigh less, were less satisfied with their body image, and were more preoccupied with the desire to be thin than their peers who viewed news magazines.

Shaw (1995) reported that adolescent girls responded to images of both adolescent and adult models in fashion magazines with decreased body satisfaction. Moreover, adolescent responsiveness was associated with increased weight, age, and bulimic tendencies. Shaw concluded that such responsiveness might indicate increased sensitivity of the female psychosocial identity during adolescence. Ogden and Mundray (1996) exposed male and female medical students to various media images of models. It was found that participants of both genders reported greater dissatisfaction with their bodies after viewing pictures of attractive, thin models and improved body satisfaction after viewing pictures of overweight models. A number of researchers have reported that the acute response was greater in the female participants than the male participants (Hargreaves & Tiggemann, 2004; Ogden and Mundray, 1996.

A meta-analytic review of 25 studies investigating the effect of presenting thin-ideal images to women supported the conclusion that the mass media promotes a standard of thinness that leads to greater body image dissatisfaction, especially in women younger than 19-years-old (Groesz et al., 2002). In their study, Fallon and Hausenblas (2005) examined the psychosocial impact of viewing media images of ideal women and attempted to moderate their responses with aerobic exercise. They concluded that the mass media's portrayal of the "ideal" female body remains a powerful and pervasive influence on the negative mood and body dissatisfaction of women. The aerobic exercise

failed to decrease this response.

Many authors continue to postulate that females feel more media pressure to be attractive than do males, stating that the media places more emphasis on female than male attractiveness (e.g., Levine & Smolak, 1994; Murray, Touyz, & Beumont, 1996; Ogletree, Williams, Raffeld, Mason, & Fricke, 1990; Silverstein et al., 1986). Over 20 years ago, Andersen and DiDomenico (1992) reported that women's magazines contained ten times the number of advertisements and articles pertaining to weight loss as compared to men's magazines. They argue that a dose-response relationship may exist between sociocultural messages promoting a body ideal and the incidence of eating disorders. They concluded that this would explain the different rates of eating disorders between the sexes. However, during the past 10 years, there has been an increasing trend for male bodies to be featured in advertising, in magazines, and on television (e.g., Cohane & Pope, 2001; McCabe & Ricciardelli, 2003b; Pope, Phillips, & Oliviardia, 2000; Waller & Shaw, 1994; Watson, 2000).

Until recently there was very little research on the effects of media exposure and male body image. Recent research is now reporting changes in men's fashion magazines including: increased numbers of articles on men's weight and health concerns (Nemeroff, Stein, Diehl, & Smilack, 1994), increased use of young male bodies in the marketing of products (Davis, Shapiro, Elliot, & Dionne, 1993), and increased muscularity of centerfold men in Playgirl magazines (Leit, Pope, & Gray, 2001). Wroblewska (1997) has argued that the presentation of the male physique in the mass media has changed over the past 30 years, with the proportions of the "ideal male physique" becoming more muscular

and larger from Charles Atlas in the 1950s to Arnold Schwartznegger in the 1990s. Another study recently reported that action figures, such as G.I. Joe and Rescue Heroes, have become increasingly muscular (Pope, Olivardia, Gruber, & Borowecki, 1999). Moreover, many action figures have physiques that are more muscular than physically possible.

The research reported above raises questions related to the exposure of idealized male physiques on body image ratings in males. Humphreys and Paxton (2004) designed an experiment to examine the impact of exposure to muscular, athletic, idealized male images on adolescent boys' body image. Consistent with previous research, there was on average no negative impact of viewing idealized male images on body image. However, adolescent boys who internalized the muscular, athletic ideal body image, and those boys with prior body dissatisfaction experienced deleterious psychological effects following exposure.

It has been shown that more and more frequently, young men desire to gain weight to attain a more muscular build (e.g., Buchanan, 1996; Drewnowski & Yee, 1987; Drewnowski et al., 1995; McCaulay, Mintz, & Glenn, 1988; Sande & Buchanan,1994). The literature suggests that cultural expectations, societal pressures, a gym subculture, media imagery, and Hollywood publicity may be causes of increased anabolic steroid use and exercise obsession for men (Pope, Katz, & Hudson, 1993; Schwerin et al., 1996). Pope and colleagues have postulated that a reverse anorexia, called "muscle dysmorphia", exists for men (Pope et al., 1997; Pope et al., 1993). Lucas found that between 3 and 12% of male high school students use anabolic steroids (as cited in Drewnowski et al., 1995).

Other research has associated the use of steroids with the desire to gain weight for a more muscular build (Brower, Blow, & Hill, 1994; for a comprehensive review, see Cafri et al., 2005).

To investigate the influence of the media on body image, Heinberg and colleagues (1995) developed the Sociocultural Attitudes to Appearance Questionnaire (SATAQ). This questionnaire has two subscales: the Awareness subscale and the Internalization subscale. The Awareness subscale is designed to measure a person's awareness of a societal emphasis on appearance and the Internalization subscale measures the internalization and acceptance of these standards. Recently, Thompson and colleagues have added other subscales, Information, Pressures, and have separated the Internalization subscale into two components, General Internalization and Athlete Internalization (Calogero et al., 2004; Smolak, Levine, & Thompson, 2001; Thompson et al., 2004). Previous research with the SATAQ revealed that, overall, as media influence increased body dissatisfaction increased (e.g., Calogero, Davis, & Thompson, 2004; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). This scale has been successfully used with 8- to 11- year old children (Cusumano & Thompson, 2001). Researchers are now recognizing that they need to look at how societal messages are reaching and being accepted by younger children.

In summary, what society values as attractive for females is a thin body shape. The literature conducted to date concluded that this assessment of females is clearly, frequently, and repeatedly communicated through the mass media. Clearly, the literature has recognized that what society values as attractive for males is a muscular, larger body

shape (e.g., McCabe & Ricciardelli 2004a; McCreary & Sadava, 2001; Pope et al., 2000; Watson, 2000). The dysfunctional exercising and dieting behaviours of females, and similar behaviors of males, demonstrate the acceptance and internalization of these cultural standards.

In addition, this thin ideal is both conveyed and reinforced by the person's subculture through body focussed comments from friends, family, and schools (Guiney & Furlong, 2000; Levine & Smolak, 1996; Smolak & Levine, 1996; Thompson & Stice, 2001). This might explain why only some girls and women experience eating disorders or why some men use anabolic steroids and others do not. The immediate subculture surrounding the person makes him or her susceptible to society's messages about attractiveness and appearance discrimination. The developmental experiences of the person, such as exposure to negative verbal commentary, implicit social comparison cues, or other information about appearance and body image may be critical experiences that trigger body dysphoria, eating pathology, and negative affect (Lavin & Cash, 2001). The following section will examine the individual's developmental experiences in their particular subculture as communicated by parents, family, and peers in relation to his or her body image experiences.

The subculture of body image.

Society's standards of beauty are communicated to children by the mass media, as well as by peer groups, by parents, and by other family members. There are numerous channels of influence, all impacting the child at the same time, and affecting the development of the child's body image and self-concept. Moreover, as the child becomes

an adolescent, the values of the peer groups become more influential as they are no longer filtered by the parents.

The presence of a subculture emphasizing physical appearance could provide the reinforcement necessary for the internalization of the cultural standards of physical attractiveness portrayed in the media. An assertion made by Wertheim and colleagues is that verbal commentary from peers, family, and parents provide this social reinforcement. Wertheim and colleagues posited, "Girls saw the media portrayal of the thin ideal as a major pressure to be thin. Yet these media influences were reinforced by a more immediate subculture consisting of peers and family" (Wertheim, Paxton, Schutz, & Muir, 1997; p. 354).

The following section will review some of the prominent research related to sources of social reinforcement and influence in the development of body image and eating disorder pathology. Topics will be organized according to two major sources of influence for children and adolescents, their parents and their peers.

Influence of parental attitudes and behaviours. What happens when parents express concerns about their child's body shape and size? Bem (1978) stated that when parents label their children's observable behavior, children learn this and the perception of these labels becomes a source of self-description. In general, negative comments from parents concerning body shape and weight have been found to contribute to disordered eating attitudes and behaviors (for a comprehensive review, see Heinberg, 1996). Pierce and Wardle (1993) reported that parental appraisal of their child's body size as "too fat" or "too thin" and the child's beliefs about this appraisal negatively impacted the child's self-

esteem. Parents more often described boys as "too thin" and girls as "too fat". Of the girls, those who believed that their parents thought them too fat had the lowest self-esteem. Of the boys, those who believed that their parents thought them too thin had the lowest self-esteem. Pierce and Wardle concluded that social pressures for boys to be more "robust" can be as damaging to the self-esteem for slim boys as is the social pressure for girls to be thin. They also stated that this social pressure for a specific desired body shape for boys and for girls is both shared and communicated by parents.

However, the research regarding parental modeling of weight and shape concerns and weight control behaviors is less consistent. A number of studies have reported that one of the factors systematically related to dieting among young girls is the restrained eating behaviours of their mother (Hill, Waever, & Blundell, 1990; Pike & Rodin, 1991). In their investigation of dieting behaviours of 7-year-old Swedish girls, Edlund and colleagues (1996) reported that 50% of the girls sampled stated that their mother was presently on a diet. Paxton and colleagues (1991) reported that adolescent girls, but not adolescent boys, with a dieting parent were more likely to diet. Conversely, other studies reported that parental modeling of body dissatisfaction and weight control was not related to their children's dietary restraint scores and body dissatisfaction scores on the Eating Attitudes Test (EAT; Levine et al., 1994; Thelen & Cormier, 1995). The dependent measures used in these studies might explain the conflicting findings. Whereas the former research measured behaviors (e.g., dieting), the later researchers measured attitudes utilizing the EAT subscales.

Historically, psychology has looked to the influence of mothers on the development

of their children. The body image and eating disorder literature is no exception. It has been repeatedly reported that mothers play an instrumental role in the transmission of cultural values regarding weight, shape, and appearance (Hill & Franklin, 1998; Pike & Rodin, 1991). A number of studies have reported correspondence between mothers' and daughters' levels of weight concern (Steiger, Stotland, Ghadirian, & Whitehead, 1994) and degree of dietary restraint (Hill, Weaver, & Blundell, 1990). However, research has not consistently reported such correspondence between mothers and daughters. For example, Ogden and Elder (1998) and Ogden and Steward (2000) reported incongruity between mothers and daughters attitudes toward weight concerns. Similar incongruous findings were reported for mother-daughter dyads in both African American and White families (Thompson et al., 1999). Inconsistencies in the literature that might explain the conflicting findings are, perhaps, due to the different populations studied.

Researchers are now looking at more direct influences of maternal attitudes on their child's body image. In a large cross-sectional study of nine- and 10-year old girls (n=2379), the major factor associated with weight loss attempts was mothers telling the girls that they were too fat (Schreiber et al., 1996). Hodes, Jones, and Davies (1996) investigated cross cultural variation in mothers' attitudes to children's body shape. Of the 114 mothers who participated, the cultural groups represented in the sample included mothers from the United Kingdom (UK), Asia, the Mediterranean, the Caribbean, and Africa. There were no differences across cultures in ratings of attractiveness for boys. However, mothers from the UK and Mediterranean rated slimmer figures of girls as more attractive than did mothers from the other cultural groups (Hodes et al., 1996). Of

significance is the finding that there were no differences in the actual body shape of mothers and children. The researchers concluded that such maternal attitudes toward body shape may be directly communicated to their children and may affect feeding behaviour. In turn, the children may internalize these attitudes and be at increased risk for developing eating disorders.

The etiology of eating disorders is still not well known and much has been written about the direct impact of families on patients with an eating disorder (e.g., Minuchin, Rosman, & Baker, 1978; Schlundt & Johnson, 1990; Strober & Humphrey, 1987; Vandereycken, 1995; Williamson, 1990). Young women diagnosed with Bulimia Nervosa reported that their mothers were anxious about weight and pressured them to be thin and to diet (Mitchell, Hatsukami, Pyle, & Eckert, 1986; Moreno & Thelen, 1993a; Pike & Rodin, 1991). In one investigation, the daughters' perceptions were confirmed by reports from their mothers (Moreno & Thelen, 1993a). Furthermore, the fathers reported that they did not consider their daughters overweight nor did they pressure their daughter to lose weight.

In a replication and extension of Moreno and Thelen's (1993a) study, Kanakis and Thelen (1995) reported that after controlling for body mass, the parents of daughters with bulimia and subclinical bulimia did not report pressuring their daughter to lose weight more than parents of control daughters. However, they did report that the participants with bulimia and subclinical bulimia reported more teasing than control participants from both family and friends and greater impact of teasing by one's family. Kanakis and Thelen (1995) concluded that family criticism may be more influential than peer

criticism, because family members are perceived as more important. These family related differences support the notion that family attitudes about weight and dieting may be a discriminating variable for the development of bulimia (Fabian & Thompson, 1989; Kanakis & Thelen, 1995; Thompson, 1995; Thompson, Cattarin, Fowler, & Fisher, 1995).

Influence of peer attitudes and behaviours. Peers, especially same-sex friends, may model attitudes and behaviours associated with body dissatisfaction. One preliminary investigation by Australian researchers reported that most 15-year-old girls in their study reported moderate peer pressure to be thin (Wertheim et al., 1997). Direct peer pressure for females to be slender and to conform to an ideal body shape and size also appear to be correlated with weight concerns, dieting behaviours, and other negative weight related behaviours (Levine & Smolak, 1994). Most commonly reported were the indirect social influences to be thin, such as social comparison with peers, joint dieting, and the need for avoidance of social disapproval associated with "being fat" (Wertheim et al., 1997). Teasing or body focussed criticism may be the enforcement of cultural standards of attractiveness in the form of peer pressure. The individuals who deviate from this definition of a body-ideal are punished by their peers until they change their appearance and behavior to meet the subculture's standard of attractiveness.

Levine and Smolak (1994) reported that 41.5% of middle school girls talk with friends about weight, body shape, and dieting at least sometimes. Furthermore, Paxton, Schutz, Wertheim, and Muir (1999) examined friendship clique influence on body image attitudes in 15-year-old female Australian high school students. They concluded that body

image attitudes may be very strongly communicated within groups through behaviours such as talk, clothing choice, or exercise choice. In fact, Paxton and colleagues stated that the use of extreme weight loss behaviours may draw girls together.

In an earlier study, Paxton et al. (1991) reported that few Australian middle school and high school students stated that their friends encouraged them to diet. Additionally, Wertheim and colleagues (1997) reported that direct peer encouragement to diet was infrequent and peers comments did not make them feel the need to diet. These findings suggest that direct peer pressure to diet is infrequent, and that indirect social influences were more common (i.e., social comparison, joint dieting, and avoidance of social disapproval). However, the media's portrayal of thin models on television and in magazines were reported as the major force in fostering body concerns and dieting behaviour (Wertheim et al., 1997).

To summarize, the media, parents, and peers each contribute to the messages students receive about body shape and weight. Cognitive-Social Learning theory may posit the mechanism by which these messages become internalized.

Is there a subculture in which parents and peers emphasize ideal body shape and weight, which in turn makes the student more vulnerable to pathological eating and negative emotional consequences? Rosenblum and Lewis (1999) stated that for adolescents body image and self-concept is greatly influenced by social feedback on appearance. In Levine and Smolak's (1994) earlier literature review, they concluded that early adolescence is marked by an increase in weight and shape consciousness in girls because of the co-occurrence of puberty onset and the increased salience of sociocultural

attitudes toward appearance. Elkind (1978) proposed that children's and adolescents' egocentrism causes them to be aware of real or self-perceived evaluations of them made by others. As a result, they are sensitive to real or self-perceived suggestions of acceptance and rejection by others. Paxton and colleagues (1999) extend this path of association by investigating a sociocultural theoretical model of disordered eating. They submit that the immediate social context of the person is a subculture which mediates weight concerns. These findings would help to explain why most young girls who are exposed to sociocultural pressure for thinness do not develop an eating disorder.

During the past ten years, researchers have started to look at the impact of sociocultural messages on body image in boys. For example, researchers assessed a sample of 8- to 10-year old children, girls and boys, from the Los Angeles area (Shapiro et al., 1997). The researchers designed and tested instruments, including the Fear of Fatness Index (FOF) and the Perceived Origins of Attitudes About Thinness and Obesity (POAATO). The POAATO was designed to measure the perceived origins of attitudes relating to thinness and dieting, determining the influence of peers, family, and the media on the development of these attitudes. The children reported an awareness of the sociocultural preference for thinness, especially from extended family members, the nuclear family, and the media. Moreover, the children's reported fear of fatness indicated that they had internalized the sociocultural messages. Although both boys and girls reported similar awareness of social pressures for thinness, girls reported greater distress about becoming fat.

One problem with this interpretation lies in the questions asked. The cultural

pressure for boys is qualitatively different than it is for girls. As previously discussed, the cultural ideal and associated social pressure for males is for a large, muscular body. Non-directional questions that reflected an absolute discrepancy from the ideal would have more accurately measured male body image concerns. The present research addressed this measurement problem by utilizing the Body Image Perceptions Scale (BIPS; Sande & Buchanan, 1994). The BIPS measures the person's absolute discrepancy from their ideal body image, a non-directional score, so this would more accurately reflect the male body image experience.

Concurrently, another line of research by Ricciardelli and McCabe has also documented the male body image experience. This line of research produced a similar multidimensional body image measure called the Body Change Inventory (Ricciardelli & McCabe, 2002). The scales include measures of strategies to increase body size, decrease body size, and increase muscle size. In addition, these researchers developed measures for use with children to assess sociocultural influences such as perceived pressure from specified family and friends to lose weight and, separately, to increase muscularity (Ricciardelli et al., 2003).

Recent evidence suggests that the seeds of body image dissatisfaction, dysfunctional body change behaviours, and eating disorders begin during childhood (for a comprehensive review, see Smolak, 2004; Smolak, Levine, & Striegel-Moore, 1996; Thompson, 1995; Thompson & Smolak, 2001; Stice, 1994). Researchers have focussed on the developmental factors that might serve as etiological pressures in the formation of body image disturbance and associated pathology such as weight status, rate of pubertal

change, depression, low self-esteem, perceived family conflict, and history of teasing or criticism about physical appearance. The following section reviews some of the prominent research and our present understanding of the developmental factors associated with body image.

Body focussed criticism

Teasing or criticism about body shape and weight may heighten adolescents' self-disparagement toward their weight and body shape and increase problematic behaviours such as dysfunctional eating and exercising (Fabian & Thompson, 1989; Smolak, Levine, & Schermer, 1999; Thompson, 1995; Thompson & Psaltis, 1988). A number of studies have now demonstrated that adult females who were teased about their body shape and weight during adolescence reported elevated levels of eating disturbance, body dissatisfaction, and general psychological distress (e.g., Cattarin & Thompson, 1994; Guiney & Furlong, 2000; Thompson, 1995; Thompson & Psaltis, 1988; Thompson, Fabian, Moulton, Dunn & Altabe, 1991).

Previous research has concluded that childhood teasing has lasting effects on women's body image dissatisfaction and level of eating disturbance (e.g., Cash et al., 1986; Stormer & Thompson, 1996; Thompson, 1995; Thompson & Heinberg, 1993; Thompson & Psaltis, 1988). However, the significance of the contribution childhood teasing makes to the understanding of body image disturbance remains in question. For example, Stormer and Thompson's study of 162 college females reported that social comparison, and awareness/internalization of sociocultural pressures were major predictors of body image disturbance, whereas negative verbal commentary explained

only a small part. However, in Cattarin and Thompson's (1994) longitudinal study, teasing predicted the later development of body dissatisfaction. More recent investigations have revealed an interactive influence between a dispositional risk factor (such as weight status) and a psychosocial factor (such as negative verbal commentary) in the development of body image disturbance and eating disturbance (Thompson, Coovert, Richards, Johnson, & Cattarin, 1995).

Rosenblum and Lewis (1999) posit that adolescent egocentrism causes them to be highly aware of and sensitive to appearance related social feedback. Fabian and Thompson reported that 10- to 15- year old students' self-reports of teasing frequency were associated with lowered body esteem and increased drive for thinness. Another study investigating peer ridicule among female teenagers with Turner Syndrome, concluded that peer criticism about appearance causes greater personal distress than negative self-statements (Rickert, Hassed, Hendon, & Cunniff, 1996). Turner Syndrome is a sex chromosome disorder that mainly affects women. Women with Turner Syndrome are quite short and have various physical anomalies such as webbing of the neck and other health problems such as cardiac and renal disorders. Rickert et al. (1996) reported that peer teasing was the most significant predictor of both depression and negative self-image for these young women.

Until recently, few studies have investigated boys' body image experiences. Moreover, only a few reported any significant association between cultural standards of attractiveness, criticism, and body image concerns for boys (e.g., Holt & Ricciardelli, 2002; Ricciardelli & McCabe, 2001; Ricciardelli et al., 2003). Previously, researchers

assumed that family and sociocultural influences were more salient and influential for girls than for boys (e.g., Dolan & Gitzinger, 1994; Fredrickson & Roberts, 1997; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998). Oliver and Thelen (1996) reported that boys and girls did not differ in the frequency of receiving negative body image comments from peers. Moreover, this study reported an association between negative messages about one's body and eating and body concerns during childhood for both girls and boys. However, girls reported significantly more dysfunctional eating behaviours than did boys. These researchers recognized and reported that their measure of dysfunctional behaviours addressed the female-typical desire to be thinner, which would not address the typical pre-adolescent male desire to be bigger than their current size. A considerable body of evidence, reviewed by Smolak (2004) revealed that developmental considerations of the mediating role of body focussed criticism and society's standards of attractiveness have not been adequately addressed in the body image literature.

Finally, the experience of negative evaluation or criticism from others is regarded as a contributing factor in the development of perfectionist tendencies (Flett, Hewitt, & Singer, 1995; Frost, Lahart, & Rosenblate, 1991). Research on the history of criticism about one's physical appearance confirmed its association with both self-oriented perfectionism and socially-prescribed perfectionism and with body image dysphoria (Kosowan, Flett, & Hewitt, 1997). For purposes of this study, the following is a brief discussion of perfectionistic personality characteristics that relate to the development of body image discrepancy and dissatisfaction

Personality Factors.

Within the body image and eating disorder literature, personality characteristics such as perfectionism, rigidity, and impulsivity have previously been identified as correlates of subclinical and clinical forms of eating disordered behavior (for a comprehensive review see Thompson, 2003; 2004; Thompson et al., 1999; Williamson, 1990). Although a number of personality factors have been studied in relation to body image, only perfectionism seems to be consistently associated with body dissatisfaction, eating disorders, and subclinical levels of related symptoms (e.g., Hewitt et al., 1995; Kosowan et al., 1997; Thompson, 1995). For purposes of this research, the following section will review some of the prominent research related to perfectionism and its association with body image and eating disorder pathology.

Perfectionism.

In general, perfectionism is defined as the tendency to hold and pursue unrealistically high goals (Pacht, 1984). Perfectionism, as one form of dysfunctional cognition, has been linked to adjustment and achievement and has also been associated with a "pervasive neurotic style" (Hewitt & Flett, 1991a). The perfectionist individual tends to see things in "all or nothing terms", where the only two outcomes are perfection and failure. Other characteristic reactions include selective attention to and overgeneralization of failure and harsh self-evaluations. Furthermore, perfectionism correlates with depression (Hewitt, Mittlestaedt, & Wollert, 1989), anxiety, eating disorders, procrastination, low self-esteem, and other mental health problems (for a comprehensive review, see Flett & Hewitt, 2002).

Several investigations of perfectionism have established it as a multidimensional construct with both personal and social components. For example, the Multidimensional Perfectionism Scale (MPS; Hewitt, Flett, Turnbull-Donovan, & Mikail, 1991) contains three subscales: self-oriented perfectionism, other-oriented perfectionism, and socially-prescribed perfectionism. The personal component, self-oriented perfectionism, is defined as the tendency to set exact standards for oneself, to evaluate oneself harshly, and to incorporate a discrepancy between actual self and ideal self. The two social components include other-oriented perfectionism which involves imposing perfectionist standards on others and socially-prescribed perfectionism which involves the belief that others will value you only if you are perfect (Hewitt et al., 1995). These researchers concluded that these perfectionism dimensions are differentially linked to the development and maintenance of various problems including over-achievement, intimate relationship difficulties, and other mental health problems (e.g., Hewitt & Flett, 1991a; 1991b; Hewitt & Genest, 1990).

The importance of perfectionism in relation to body image and eating disorders has long been recognized (e.g., Bauer & Anderson, 1989; Bruch, 1979; Heatherton & Baumeister, 1991; Stice, Schupak-Neuberg, Shaw, & Stein, 1994). Cash and Szymanski's (1995) research results indicated that perfectionists tend to experience a greater discrepancy between their actual and ideal body image, and that these ideals are very salient and important. Socially-prescribed perfectionism moderated the relationship between exposure to media images of female bodies and a number of variables including body image dissatisfaction and the internalization of the thin-ideal standard (Cash &

Szymanski, 1995; Kosowan et al., 1997).

Furthermore, perfectionist strivings result in unrealistic standards for physical attractiveness and thinness which are both are predictive factors of anorexic and bulimic tendencies. As Hewitt and colleagues (1995) concluded, individuals with eating disorders view achievements in black and white terms such that anything less than perfection is failure. More specifically, self-oriented perfectionism has been associated with anorexia nervosa (e.g., Bastiani, Rao, Weltzin, & Kaye, 1995; Cooper, Cooper, & Fairburn, 1985; Garner, Olmstead, & Polivy, 1983), bulimia nervosa and binge eating disorder (e.g., Pratt, Telch, Labouvie, Wilson, & Agras, 2001), and sub-clinical depression (e.g., Hewitt et al., 1989; Hewitt et al., 1990; Hewitt & Flett, 1991b; Hewitt & Genest, 1990). Socially-prescribed perfectionism has been associated with clinical levels of unipolar depression and anxiety disorders (Hewitt et al., 1991) and binge eating disorder (Pratt et al., 2001). Even in general population studies, women who reported perfectionist standards tended to be more dissatisfied with their bodies and feel fatter, regardless of their actual weight, than women who reported lower perfectionist tendencies (for a comprehensive review, see Flett & Hewitt, 2002).

The association of multidimensional perfectionism with factors central to body image dissatisfaction and eating disorders has not been consistently supported. For example, Roberts and Dorr (2000) reported that self-oriented perfectionism did not moderate the relationship between media and other factors, including gender role endorsement, internalization of the thin-ideal, and body dissatisfaction. Buchanan (1996) also reported that there was no relation between self-oriented perfectionism and body

image discrepancy, for women or men. However, greater levels of socially-prescribed perfectionism were associated with greater body image discrepancy, for women and men. Differences between these two studies that might explain the conflicting findings include the differing body image measures, the scoring method, and the separate analyses of the MPS sub-scales conducted by Buchanan (1996). Roberts and Dorr (2000) also recognized that their limited sample size (77 females) would have resulted in a lack of power for adequate testing of the mediational model.

The role of perfectionism in the relationship among sociocultural images, internalization of the ideal body image, body dissatisfaction, and psychological well-being remains undefined. The central tenet of Hewitt and Flett's theory is the "specific vulnerability hypothesis.". That is, perfectionism interacts with other traits and life events to produce a feeling of pressure combined with a sense of helplessness and hopelessness. From the aforementioned characteristics, one can understand how the cyclical nature of repeated dieting and failure to reach an ideal body weight or body size can have potentially severe outcomes such as depression, body image dissatisfaction, and low self-esteem for perfectionist individuals (Buchanan, 1996).

In summary, one goal of this research was an examination of the impact of antecedent factors on the development of body image. Specifically, the influence of their personality (i.e., perfectionism) within the sociocultural context (i.e., sociocultural standards of appearance) and the body-related subculture (i.e., body criticism and teasing by parents, family, and peers). The following section reviews the impact of self-perceived body image on psychological well-being and its effects in specific maladaptive

behaviours. A brief discussion of global psychological well-being (self-esteem, depression, and anxiety) and behavioral manifestations (dieting, disturbed eating, excessive exercise, and social avoidance) will be presented only to the extent that they are associated with body image discrepancy.

The Impact of Body Image on Psychological Well-Being and Body Size Change Behaviours

Historically, the experiences of patient populations diagnosed with various eating disorders has been the focus of body image research (for a comprehensive review, Striegel-Moore et al., 1986; Thompson, 2003; 2004; Williamson, 1990). Thus, our understanding of the relationship between body image dissatisfaction and negative psychosocial sequelae such as decreased self-esteem (e.g., Folk, Pedersen, & Cullari, 1993), increased levels of depression (e.g., Noles, Cash, & Winstead, 1985) and anxiety (e.g., Prather & Williamson, 1988; Reed, Thompson, Brannick, & Sacco, 1991), and poor coping with stress (e.g., Rosen, Gross, & Vara, 1987; Shatford & Evans, 1986) was primarily based on the experiences of patients with eating-disorders. During the previous ten years, researchers have examined these relationships within the general population of adults, adolescents, and children (for a comprehensive review, see Thompson & Smolak, 2001; Thompson et al., 1999).

The following discussion will review the psychosocial consequences of body image discrepancy as experienced by the general population of men, women, boys, and girls. The aim in focusing the present investigation on psychological well-being instead of degree of pathology is to better represent and test the normal range of experiences.

However, as much of the research in this area has been conducted in the investigation of eating disorders, the following discussion will include relevant findings from this line of research.

Body Image and Psychological Well-Being

For purposes of the present investigation, the construct of psychological well-being will be tested with an examination of the following three factors: general self-esteem, depressive symptomatology, and level of anxiety.

Global Psychological Well-Being.

Repeated demonstrations of strong associations among self-esteem, depression, and anxiety have led to their reconceptualization as a single index of global psychological well-being (e.g., King, Ollendick, & Gullone, 1991; Kostanski & Gullone, 1998). Research examining the consequences of body image disturbance has revealed a complex pattern of relationships between body image, depression, and self-esteem (for a comprehensive review, see Thompson, 2003; Thompson et al., 1999).

The interaction between the emotional and behavioral consequences of a negative body image is not clearly understood. Researchers have stated that people with low self-esteem have a negative body image. The negative body image motivates them to diet, and dieting almost always leads to failure, which in turn lowers their self-esteem (Tiggemann, 1994). Low self-esteem has repeatedly been identified as a risk factor for, and a characteristic typical of, individuals with eating disorders (Kerr, Skok, & McLaughlin, 1991; Nagelberg, Hall, & Wara, 1984; Williamson, Barker, & Norris, 1993). For example, Killen et al. (1994) reported that young adolescent women who reported

disordered eating behaviours also reported increased depression and body dissatisfaction. The researchers hypothesized that this led to a negative body image, which motivated them to diet. The dieting failed, so they continued to experience depression and body dissatisfaction, which in turn led to a negative body image, and so on. These researchers attempted to illustrate the cyclical nature of body image and dysfunctional eating and exercise behaviours (for a comprehensive review, see Williamson, 1990).

However, as the following discussion will highlight, the nature and extent of the relationship between the psychological well-being variables and body image is not clearly articulated. For purposes of this research, psychological well-being and its component factors (self-esteem, depression, and anxiety) are treated as outcomes of body image dissatisfaction. Recently, Tiggemann (2005) reiterated the self-discrepancy theory of self-esteem which predicts that body dissatisfaction will be an antecedent to self-esteem. However, the longitudinal panel design to test for direction of relationship between body dissatisfaction and self-esteem remained inconclusive.

Self-esteem. In general terms, self-esteem is a generalized evaluative attitude toward oneself that influences both moods and behavior and exerts a powerful effect on a range of personal and social behaviors (Zimbardo & Gerrig, 1999). Another, more widely accepted definition of self-esteem is confidence in the ability to think, in the ability to cope with the basic challenges of life, and the feeling of being worthy and deserving of the right to be successful and happy (Branden, 1994). A considerable body of evidence has linked global self-esteem to body image disturbance and disordered eating behaviors (e.g. Cohane & Pope, 2001; Fichter, Quadflieg, & Rehm, 2003; McCreary & Sasse, 2000;

Thompson et al., 1999). However, data from a number of studies have reported mixed findings about whether low global self-esteem is a risk factor for eating disorders (for a review of these studies, see Stice, 2001; 2002; Jacobi, Hayward, deZwann, Kraemer, & Agras, 2004).

In a review of the eating disorder literature, Rosen (1995) concluded that the importance of physical appearance in relation to self-worth, self-acceptance, and social acceptability becomes exaggerated in this patient population. Fairburn (1995) also supported the view that, for this population, self-esteem is almost exclusively based on body shape and weight. In contrast, Geller, Johnston, & Madsen (1997) stated that "shape and weight concerns are not merely salient to eating disordered individuals, but rather have a central influence (positive or negative) on feelings of self-worth" for the general population (p. 6).

For purposes of this research, body image is viewed a predictor of self-esteem. That is, body image is incorporated into beliefs about the self and partially determines global self-worth. Researchers have examined the cognitive schemata that incorporate beliefs about shape and weight within the perception of the self (cf. Vitousek, 1995; Fairburn, 1995; Geller et al., 1997). Earlier, Harter (1983) suggested that young children focus their self-ratings on the observable, concrete aspects on themselves such as physical appearance. Subsequent research in non-clinical populations of children and adolescents investigating the development of body image dissatisfaction and its associated consequences have supported this finding (Geller et al., 2000; Smolak & Levine, 2001; Striegel-Moore et al., 2000). There is evidence that, for children, self-ratings of physical

attractiveness are positively associated with general self-esteem (Folk et al., 1993; Shapka & Keating, 2005). For girls, total body satisfaction was significantly associated with self-concept at grade three (8-years old) and grade six (11-years old). For girls, actual weight was negatively correlated with total body satisfaction. For boys, Folk and colleagues reported that no relationship existed between body satisfaction and self-concept. These researchers acknowledged that the sixth-grade boys (11-years old) in their study did indicate dissatisfaction with their body (no percentages were reported); however, the researchers stated that they did not know whether or not to consider this to be detrimental to the boys' self-concept.

When investigating gender differences in the predictive value of body image and self-esteem for dieting at different ages, Friestad and colleagues (2004) found body image is a strong predictor of girls' dieting behaviours across all ages (15- to 21-years old). For girls, self esteem did not predict dieting behaviour across all ages. However, for boys both self-esteem and body image predicted dieting behaviours across all ages. Friestad et al. concluded that these gender differences in the relationships between body image, self-esteem, and dieting deserve further attention.

In contrast, McDonald (1998) reported that students, boys and girls, who rated themselves as "too big" reported lower general self-esteem than did students who rated themselves as "just right" or "too small". Similarly, Pierce and Wardle (1993) reported that for boys, thinness had the same negative impact on self-esteem that fatness had on girls. This research preceded Tiggeman and Wilson-Barrett's (1998) conclusion that the 'normative discontent', a pervasive and general weight dissatisfaction experienced by

women, also applies to young girls as well.

Until ten years ago, most research articles reported that body image did not significantly contribute to men's overall self-esteem. For example, Thompson and Altabe (1991) found no relation between men's body image discrepancy and self-esteem and a significant relation for women. It was stated that the mechanism for this difference was that women primarily define themselves in relation to others, whereas men define themselves in terms of individualization, accomplishment, and performance (e.g., Rodin, 1992; Rodin et al., 1985; Dolan & Gitzinger, 1994). Thus women were considered to be more sensitive to sociocultural pressures and have a greater need for social approval. As a result, women were seen as more aware of the ideal body image for women and more sensitive to body focussed criticism, so any discrepancy in body appearance would have a greater impact on global self-esteem than would be experienced by men (e.g., Friestad & Rise, 2004).

In addition, Cash and Brown (1989) argued that the greater prevalence of body image dysfunction among women may be due to their greater tendency for self-disclosure. The belief is that women and adolescent girls create an "appearance culture" by readily discussing weight, dieting, and appearance related issued in conversations with friends (Jones, 2004). In contrast, researchers have long noted that men have a tendency to under-report any vulnerability, whether it is physical or psychological symptomatology (e.g., Brannon, 1999; Brannon & Feist, 1997). Thus this artifact of sex differences in responding to self-report measures may have contributed to the previously reported differences between rates of body image concerns for men and women.

However, research by Buchanan (1996) revealed the strength and nature of the relationship between body image (BIPS) and self-esteem for women and men. Both female (n=1021) and male (n=726) students at the University of Manitoba completed a survey containing a number of body image measures. For women, the calculation of a total score for BIPS resulted in a negative significant association between body image and self-esteem (r = -0.23, n.s.). However, the calculation of the BIPS absolute score revealed a stronger relation (r = -0.47, $p < .01$). For women, the direction of body image discrepancy was generally linear and most women reported that they want to be smaller than their present size. Thus, being larger than the ideal, but not smaller, was predictive of lower levels of self-esteem in women. For men, the difference in findings reported between the BIPS total score and absolute deviation score was striking. For men, the calculation of the BIPS total score resulted in no relation between body image and self-esteem (r = -.02, n.s.). However, the calculation of the BIPS absolute deviation score revealed a significant relation between body image and self-esteem (r = -0.37, $p < .01$). These results for men illustrated a quadratic relation between body image and self-esteem. The quadratic relation indicated that the greater the deviation from their ideal body image, whether larger or smaller, the greater the negative association with self-esteem. Thus, men are experiencing a double edged sword, their self-esteem is negatively impacted if they believe their body is too big or too small.

In a previous investigation using a multidimensional measure of self-esteem (State Self-Esteem Scale, Heatherton & Polivy, 1991), Buchanan (1996) reported that individuals with high body image discrepancy were low in appearance self-esteem but not

in performance self-esteem. Whether low self-esteem causes people to view their body more negatively or negative body image causes low self-esteem is not yet delineated by research. The relationship between appearance and self-esteem may also be bidirectional. In support of this, Sande and Buchanan (1997) conducted a preliminary cross-lag panel analysis of body image and self-esteem. Using the BIPS and Rosenberg Self-Esteem Scale, the analysis revealed a bidirectional relationship between self-perceived body image and general self-esteem. On the one hand if you think you look good, then you feel good. On the other hand, if you feel good then you think you look good.

Depressive symptomatology. There is a wide range of depressive symptoms and differences in the severity of symptoms. Some of the symptoms of depression include poor appetite or overeating, inability to sleep or need for excessive sleep, motor retardation or motor agitation, feelings of worthlessness or self-reproach, diminished ability to concentrate, forgetfulness, and recurrent thoughts about death and suicide ideation (Maxmen & Ward, 1994). These characterize and qualify the differences between the occasional feelings of unhappiness to the diagnostic criteria of major depressive disorder. The majority of the general population has some time in their lives experienced feelings of sadness, "the blues", hopelessness, or a loss of interest in pleasurable activities. This is characterized as dysphoria or a dysphoric mood.

One prominent theory of depression, proposed by Aaron Beck (1973), stated that people who experience depression have negative cognitive sets or schemata (sets or schemata are patterns of perceiving the world). Beck stated that depressed people have negative views of themselves, negative views of ongoing experiences, and negative views

of the future, which he called the cognitive triad of depression. Furthermore, cognitive theory proposed that if you feel bad then you have more negative thoughts (negative events, problems, and negative self-evaluation). That is, if you think about bad events then you feel bad. Which comes first, the mood or the thought, remains a controversial and unanswered question.

In the body image literature, the direction of relationship between mood (depression) and self-perception (body image) is also not clear. One line of evidence demonstrated that negative body image predicted increased depression and lower self-esteem among girls (Siegel et al., 1999). In addition, Rosenblum and Lewis (1999) found, in a longitudinal investigation across ages 13-, 15-, and 18-years-old, that the increased body dissatisfaction which co-occurs with the physical changes of maturation was linked with increased rates of depression. In contrast, a previous study of depressive symptomatology and body image suggested that the negative cognitions associated with depression served to undermine adolescents' perception of their bodies (Rierdan, Koff, & Stubbs, 1989). In this longitudinal analysis of body image as a predictor of depression, Rierdan and colleagues concluded that both male and female adolescents who were depressed developed higher levels of body dissatisfaction. These researchers concluded that depression predicted negative body image.

Furthermore, other researchers view depression and self-esteem as covariates that predict body image (e.g., Keel, Fulkerton, & Leon, 1997; Stormer & Thompson, 1996). Vernon-Guidry, Williamson, and Netemeyer (1997) implicated depression and self-esteem as joint risk factors for the development of body dysphoria and eating disorder

symptoms. The path between body dysphoria and depression alone and self-esteem alone was not significant. The structural modeling analysis showed that as pressure for thinness increased, self-esteem worsened and depression increased. Moreover, these influences were demonstrated in girls between the ages of 8- to 13-years old. In response to this, researchers are now combining anxiety, depression, and self-esteem ratings into one "super construct" of global psychological functioning (Mautner et al., 2000; Thompson, Coovert, Richards, Johnson, & Cattarin, 1995). One purpose of the present study was to further examine the relationship between body image discrepancy and psychological well-being as defined by the combination of global self-esteem ratings, depression, and anxiety symptoms.

Anxiety. In the body image literature, dissatisfaction with one's appearance has mainly been associated with depression and self-esteem, but heightened anxiety has also been demonstrated (e.g., Kaye et al., 2004; Thompson & Heinberg, 1993; Williamson, Goreczny, Davis, Ruggerio, & McKenzie, 1988). In addition to global anxiety experiences, researchers have developed measures of anxiety related specifically to weight and body shape, for example, the Physical Appearance State and Trait Anxiety Scale (PASTAS; Reed et al., 1991). The questions asked participants to rate how anxious, tense, or nervous they were about various body parts.

As recently reported, two-thirds of people diagnosed with an eating disorder also experience some type of clinical anxiety disorder (e.g., Social Phobia, Obsessive Compulsive Disorder, or Generalized Disorder)(Kaye et al., 2004). For example, anxiety has been implicated in the binge-purge cycle of bulimia nervosa and seems to be related

to the fear of gaining weight (Williamson et al., 1988). Williamson (1990) reported that this pattern is supported in the mean scores on anxiety measures of patients at his eating disorders clinic. Participants diagnosed with an eating disorder, such as bulimia nervosa, and compulsive overeaters scored higher on these general measures of anxiety (i.e., the State-Trait Anxiety Inventory, the anxiety subscale of the Symptom Check List-90-R) than did the obese clients.

Anxiety disorders are among the most common childhood mental health illness (for a comprehensive review, see Morris & March, 2004). An estimated one in 10 children and adolescents in the United States will experience clinically significant levels of anxiety (National Institute of Mental Health, 2000). In Canada, the hospitalization rate for anxiety disorders is 33 (per 100,000 children) for 5- to 14-year old children and 49 (per 100,000 children) for 15- to 19-year olds (Health Canada, 2002). These children and adolescents often experience considerable distress and significant impairment in their development. They are more likely to experience problems with their mood, with school achievement, and with their peer and family relationships.

In recent years, the importance of anxiety in relation to eating disordered behaviour has received increasing attention. Again, most published research to date focuses on the relationship between anxiety and eating disorders, with a predominantly female subject population (e.g., Keel et al., 2005). Kaye and colleagues (2004) proposed that anxiety disorders may be predisposing factors for the subsequent development of eating disordered behaviours. They concluded that eating disordered behaviours may be strategies that some people use to reduce anxiety.

However, the author of the current study considered the principals behind cognitive-behaviour therapy to guide an a priori decision about the direction of this relationship (e.g., Beck, 1976). Cognitive behavioural therapy (CBT) is a brief form of psychotherapy. Using specific strategies, therapists guide the clients' development of effective skill sets that allow them to change the ways they think and act. This in turn, affects the particular type of emotion that the person experiences. Beck suggested that people suffering from emotional problems are often trapped by a particularly negative or unhelpful way of looking at their situations. These thoughts evoke an emotional response (i.e., anxiety, depression, anger).

The fundamental idea is that emotions are experienced as a result of the way in which events are interpreted or appraised. The idea of the cognition-emotion path can be illustrated by the following story. As a young girl gets ready for school, she looks in the mirror by the front door. Her immediate reaction is: "I look fat." Feeling very anxious (and maybe depressed), she runs back to her bedroom. She thinks "What am I going to do? If I don't go to school, I will get into trouble. Maybe I can find a big shirt to hide how hideous my stomach looks. Maybe if I skip lunch, my stomach will go away".

Beck (1976) stated that people are more likely to interpret situations as more dangerous or aversive than they really are because of particular assumptions or beliefs they learned during an earlier period of life. Specifically, these previous life experiences (i.e., body focussed teasing or criticism, exposure to media images and messages of the ideal body image) result in a range of situations (i.e., school, pool, beach, parties) producing beliefs of threat or catastrophe (i.e., negative self-evaluation of body image and

body image discrepancy beliefs, fear of rejection or perceived threat) leading to excessive emotional arousal (i.e., anxiety). This combination of belief, situation, thought, and emotional arousal leads to behaviour. Beck describes safety-seeking behaviours as behaviours intended to avoid or escape from situations that might provoke anxiety, or to actively prevent the anxiety response.

The current cross-sectional study was designed to assess the prevalence of dysfunctional eating and exercise behaviors, social avoidance behaviors, and other body image related attitudes in a large school-based population in Manitoba. The focus of the following is a brief discussion of dysfunctional behaviours and attitudes that relate to body image concerns in the general population. However, due to the prominence of research into understanding eating disordered behaviours upon which the majority of previous body image studies have been based, the more extreme forms of eating and exercise behaviours will be briefly presented.

Body Image and Dysfunctional Behaviours and Attitudes

Hsu (1989) proposed that there is a continuum of eating attitudes and behaviours with 'normal' dieting on one end and eating disordered pathology on the other end. Many people have at sometime engaged in dysfunctional eating behaviours and exercise behaviours. Many of these people have done so with the intention of altering their body shape and size. More than 20 years ago, Miller, Coffman, and Linke (1980) concluded that the tendency for people to diet in an attempt to lose or gain weight is directly related to their degree of body image dissatisfaction.

Dysfunctional Eating Behaviours

A major precursor of eating disorders is the cyclical nature of repeated diet failure (Tiggemann, 1994). Dieting involves replacing internally regulated (hunger-driven) eating with planned eating and dietary restraint (Polivy & Herman, 1995). Dieting, which is both acute and chronic caloric deprivation, has been shown to correlate with the incidence of future bulimic symptoms (Kendler et al., 1991; Leon, Fulkerson, Perry, & Early-Zald, 1995; Stice & Agras, 1998) and predict the onset of subclinical and clinical eating pathology (Killen et al., 1994). Furthermore, Stice and Agras (1998) postulate that body dissatisfaction itself may be more specific to compensatory behaviours such as purging, food restriction, and obsessive exercising, and that dieting may be more closely associated with the onset of binge eating. Similarly, Snyder (1997) concluded that body image concerns are more closely associated with disordered eating than any other clinical syndrome, which suggests the possibility of a special role for this construct in both the development and treatment of disordered eating.

The current North American emphasis on thinness has resulted in billion dollar commercial weight loss programs (Krejci et al., 1992; for a comprehensive review, see Tsai & Wadden, 2005). In the 1990s, in the United States alone, Weight Watchers enrolled one million people each week and another self-help group, Take Off Pounds Sensibly (TOPS), enrolled over 300,000 each year (Cormillot, 1995). The attrition rates for behavioural programs such as Weight Watchers is very high, 50% at 6 weeks and 70% at 12 weeks (Volkmar, Stunkard, Woolston, & Bailey, 1981).The rate of dieting in Westernized countries is very high, with 50% of American women (Brownell, 1995) and

25% of American men reporting that they are dieting to lose weight (Williamson, 1995). Furthermore, 60% of a college student sample, men and women, reported that they were presently dieting to gain or lose weight (Miller et al., 1980). Thus, the general population's experience with negative body image has resulted in a billion dollar industry of dieting and exercising behaviours. Some of the consequences of prolonged food restriction include depressive symptomatology, inability to concentrate, moodiness, fatigue, anxiety, apathy, and social isolation (for a comprehensive review, see Thompson, 2004).

Studies of children and adolescents have focussed primarily on the prevalence of dieting and unhealthy eating behaviours, since it is postulated to be a precursor to the more extreme eating disordered behaviours. These studies have found that these behaviours are fairly common in children. For example, in a sample of 8- and 9-year olds, Shapiro and colleagues (1997) found 10% of boys and 13% of girls reported that they were 'always' on a diet. Similarly, Huon and Lim (2000) reported that 21% of 13- and 14-year-old Australian girls dieted at least "sometimes". Furthermore, 13% of boys and 27% of girls, aged 11 to 14, reported currently trying to lose weight (O'Dea & Abraham, 2000). Similar prevalence ratings for dieting behaviours have been reported among Saudi school girls, with 16% of girls in grades seven to grade 11 reported currently dieting (Al-Subaie, 2000).

An extensive epidemiological study of American 9- and 10- year-old girls reported that approximately 40% of these girls were trying to lose weight (Schreiber et al., 1996). Across BMI quartiles, Caucasian girls were more dissatisfied with their weight, body

shape, and body parts than African American girls. However, a slightly greater proportion of African American girls reported that they were trying to lose weight. Furthermore, the percentage of both African American and Caucasian girls trying to lose weight increased as their BMI increased. Approximately 13% of underweight girls (first BMI quartile) and 75% of overweight girls (fourth BMI quartile) were trying to lose weight.

Similarly, Braet and Wydhooge (2000) found that dietary restraint was related to low self-esteem ,but was more strongly related to weight status. In contrast, Huon and Lim (2000) reported that higher BMI was not associated with the initiation of dieting, as underweight girls also started to diet. In a nationally representative sample of adolescents in Norway (N=11,315), Wichstrom (1995) reported that 42% of female adolescents (13- to 18- years-old) are 'often' or 'always' preoccupied with a desire to be thinner, and 24% 'often' or 'always' engage in dieting behaviours. Furthermore, Wichstrom reported that 13% of adolescents whose BMI fell within the normal or subnormal range still perceived themselves as obese. Finally, perceived obesity, not BMI, was the variable that contributed the most to the probability of having an eating disorder. Based on this finding and other similar findings, BMI was not included as a variable in this research. The focus of this research was an examination of self-perceived body-discrepancy, as measured by the BIPS-C, and the associated risk factors and outcomes.

Eating disordered behaviours and body image. Several prospective studies have reported that the best predictor of the severity and intractability of eating disordered behavior is the severity of body image disturbance (e.g., Fairburn, Peveler, Jones, Hope, & Doll, 1993; Striegel-Moore, Silberstein, Frensch, & Rodin, 1989). Body image

disturbance is viewed as a crucial mediating variable for the development of eating disorders and is a primary diagnostic criterion for anorexia nervosa and bulimia nervosa (American Psychiatric Association, 1994; Joiner et al., 2000; Vernon-Guidry et al., 1997; Williamson et al., 1993).

For purposes of this research, the discussion of eating disorders is limited and emphasis is placed on the discussion of dysfunctional body size change strategies. This is due to the fact that the focus of this research is body image discrepancy as experienced in the school-aged population of boys and girls and the associated nonclinical levels of body size change behaviours that are expected. This research attempts to identify body size change behaviours

Prevalence of Eating Disorders.

A Health Canada report on mental illness in Canada stated that 3% of women will be affected by an eating disorder during their lifetime (Health Canada, 2002). In addition, hospitalization rates for eating disorders has increased by 34% for adolescent girls younger than 16-years old and increased by 29% among adolescent girls between the ages of 16- and 24-years old.

Researchers are stressing the need to examine subclinical eating pathologies, not just diagnostic levels of eating disorders (Smolak & Levine, 1996; 2001; Smolak, 2004; Stice & Agras, 1998). Cooper and Fairburn's (as cited in Garner, Rockert, Olmstead , Johnson & Coscina, 1985) large population survey in the United States reported that 40% of a community based sample of females engaged in at least one "bulimic" behaviour (e.g., purged after a meal by vomiting or laxative use) at some time in their lives.

Previous research reported that 11% of 15-year old girls regularly vomited to control weight, 8.3% used diet pills, and 6.8% used laxatives (Killen et al., 1986). The researchers maintained that these young women may be at a greater risk for developing clinically significant eating disorders which are, at times, life threatening problems. Moreover, between 1% and 4% of a community based sample of 11- and 12-year old girls reported eating disorder symptoms that met clinical criteria for Bulimia Nervosa (Killen et al., 1994).

The modal age of onset for bulimia nervosa is 18-years old (Mitchell et al., 1986). In a survey of three high-schools in the United States (total sample of 1,373 students), 9.6% of females and 1.2% of males met diagnostic criteria for Bulimia Nervosa (Gross & Rosen, 1988). A sample of college freshmen in a Midwestern American university completed a battery of self-report questionnaires (Pyle, Mitchell, Eckert, & Halvorson, 1983). The survey reported that 4.1% of the overall population met diagnostic criteria for bulimia, 7.8% of the female population, and 1.4% of the male population. The slight difference in prevalence estimates may be due to the different populations sampled, with slightly more university students engaging in clinically significant levels of bulimic behaviours.

In summary, Fairburn and Beglin (1990) argued that a broad spectrum of eating disordered behaviours is manifest in the community. They state that epidemiological studies are not enough and suggest that research must shift to studies of the nature, course, and etiology of the full spectrum of disturbance that exists in the community. An understanding of the development and etiology of body image dissatisfaction would

provide a basis for the development of a primary prevention program (for a comprehensive review, see Stice et al., 2000; Thompson & Smolak, 2001).

Exercise Behaviours and Body Image.

The primary strategies to change the shape of our bodies are dieting and exercise. The emphasis on thinness and fitness in today's society also promotes exercise behaviours as a weight control strategy. Just as eating behaviours fall on a continuum, exercise behaviours also fall on a continuum from non-exercisers to obligatory exercisers. Obligatory exercisers are characterized by a need to maintain a rigid schedule of intense exercise, detailed record keeping, feelings of guilt and anxiety when the exercise schedule is not adhered to, and exercising even when tired, injured, or ill (Krejci et al., 1992). The following is a discussion of exercise behaviours that relate to body dissatisfaction, with only a brief discussion of Anabolic-Androgenic Steroid use as it relates to body image.

The relationship between body image and exercise participation is not clear. Pasman and Thompson (1988) investigated competitive female runners and reported that there was no difference between the female runners and female controls for body dissatisfaction. Another study found the opposite, that competitive female runners had significantly higher body satisfaction (Warren, Stanton, & Blessing, 1990). Furthermore, another study reported that young girls who were satisfied with their bodies exercised more frequently than those who were dissatisfied with their bodies (Nowak, 1998).

Previously, researchers concluded that women exercise more for weight control than do men (Davis & Cowles, 1991; McDonald & Thompson, 1992). Specifically, Davis and Cowles (1991) reported that greater body satisfaction was associated with increased

exercise participation in young men but not older men or women. In addition, this high-intensity exercising exhibited by men was not considered analogous to the eating disorders experienced by women (Nudelman, Rosen, & Leitenberg, 1988). However, when researchers started to look at the 'reasons for exercise', negative associations similar to those found for disordered eating in women were linked to exercise for men. Furham and Calnan (1998) outlined seven reasons for exercising, which include weight control, fitness, mood, health, attractiveness, enjoyment, and tone. Exercising for fitness and tone was related to disordered eating and negative self-esteem in the sample of 11th and 12th grade male students (Furnham & Calnan, 1998).

Other researchers propose that the success experiences and personal growth of a physical fitness training program enhance self-esteem (Caruso & Gill, 1992; Sonstroem, 1981). For example, individuals who participated in a weight-training program reported significantly better self-concepts and more positive motivations for exercise than those who did not (Mamuza & Jamieson, 1995; Tucker, 1982). In addition, Furnham and Calnan (1998) reported that exercising for fitness and enjoyment was not correlated with eating disturbance. Previous research has suggested that dieting behavior, not exercise, is the risk factor for the development of an eating disorder (Rodin et al., 1985). However, other studies have reported that exercising for weight and tone is associated with greater body dissatisfaction and eating disturbance in both genders (McDonald & Thompson, 1992). As suggested by these researchers, the impact of body-dissatisfaction on exercise behavior, and moreover, the motivation for exercising deserved further study.

The lean, muscular ideal body image for men requires that they engage in some

form of strenuous exercise, such as running, swimming, and/or weight training. The ideal male body is the very muscular mesomorph. As men age, their Body Mass Index (BMI) increases due to increased adiposity, in turn they are more likely to report body dissatisfaction in that they perceive their body as too large (Read, 1999). Thus the direction of body dissatisfaction reported for older men is similar to that of women, the majority of both groups wanting to lose weight. In contrast, young men are more often smaller than the mesomorph ideal male body. Thus the direction for body dissatisfaction for young men is more often wanting to gain weight and body size (Read, 1999). This body change can only be attained through intense exercise to build muscles.

Concurrent to the completion of this research, a body of well-conducted research was published comparing muscle gain and weight loss strategies among adolescent boys and girls (e.g., McCabe & Ricciardelli, 2003a; 2003c; Ricciardelli & McCabe, 2003a). Researchers have developed 'drive for muscularity' measures that better reflect the motivation for exercise that boys and men experience in their drive to attain a mesomorphic ideal (e.g., Choi, Pope, & Olivardia, 2002; McCreary & Sasse, 2000; McCreary, Sasse, Saucier, & Dorsch, 2004; Ricciardelli & McCabe, 2002). For example, the Body Image and Body Change Inventory (Ricciardelli & McCabe, 2002) is a multidimensional measure that evaluates areas of body image concern and body-change strategies separately for body weight and muscularity. Other measures of the drive for muscularity were developed at the same time. For example, Schlundt and colleagues developed the Muscle Dysmorphia Inventory (MDI; as cited in Hildebrandt et al., 2004) which includes scales for the desire for increased muscle and size, negative beliefs about

body appearance, and functional impairment due to extreme exercise routines. In addition, they developed the Bodybuilder Image Grid (BIG; Hildebrandt et al., 2004) which is a figure rating scale with two dimensions, muscularity and body fat. Similarly, McCreary and colleagues developed the Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000) to assess muscularity-oriented attitudes and behaviours. As recently argued by a number of researchers, the bimodal and bidirectional distribution of body image concerns for men and for boys is more accurately represented by multidimensional measures than the previous measures that only focussed on the drive for thinness (Buchanan, 1996; McCabe & Ricciardelli, 2004b; McCreary et al., 2004).

The following is a brief discussion of Anabolic-Androgenic steroid use that only relates to extreme consequences of body image discrepancy experienced, primarily, by men and adolescents. Use of these substances was not included in this research due to reporting concerns of the school board; however, muscle enhancing substance use remains a health-threatening strategy used by adolescent and adult men to develop the mesomorphic, ideal body figure. This brief research review is included to advance the need for further discussion and research into muscle enhancing substance use. For a detailed discussion of muscular enhancement strategies such as anabolic-androgenic steroid and prohormone use, see the comprehensive review by Cafri and colleagues (2005).

Anabolic-Androgenic Steroid Use and Body Image.

One of the first American studies on the nationwide use of anabolic-androgenic steroids (AAS) reported that of the 3403 participants, 6.6% of the male 12th grade high

school students have taken AAS (Buckley et al., 1988). Based on more recent studies, it has been estimated that there may be a million male adolescents in the United States taking AAS (Cafri et al., 2005). A report issued by the Canadian Center for Drug-Free Sport (CCDS) stated that 2.8% of the 16,000 11- to 18- year old male participants surveyed reported AAS use (Melia, 1994). Based on this research, they estimate that 83,000 Canadian youth are taking AAS. Buckley and colleagues (1988) reported that the average age for starting to take AAS is 14.8 years, and in another study children reported starting taking AAS as young as 8-years old (Tanner, Miller, & Alongi, 1995). Surveys of AAS use by high school females reported AAS use rates between 1 and 2%, and indicate that AAS use is now increasing (Yesalis & Bahrke, 1995).

One commonly known reason for AAS use is for performance enhancement in athletes such as wrestlers, body builders, football players, and weight lifters (Bahrke, Yesalis, Kopstein, & Stephens, 2000). Other reasons include peer pressure (17%), because friends used AS (10%), and injury prevention (14%). However, the reason for AAS use most commonly cited by adolescents is for improved physical appearance or physique, as reported by anywhere from 27% to 49% of these athletes (Buckley et al., 1988; Komoroski & Rickert, 1992; Melia, 1994; Peters, Copeland, & Dillon, 1999; Williamson, 1993). The high prevalence of AAS use among high school youth to improve appearance is of great concern.

However, other researchers discussed the possibility of a "reverse anorexia syndrome" in which male body builders' body image perception is that they are small and weak, when the person is actually large and muscular (Pope et al., 1993; Scherwin et al.,

1996). They cite such causes of "reverse anorexia" as cultural expectations, societal pressures, a gym subculture, media imagery, and Hollywood publicity. Furthermore, Spitzer, Henderson, and Zivian (1999) reported that the rate of AAS use in men was equivalent to the rate of bulimia and was greater than the rate of anorexia in women. Thus, for men, the consequences of body image concerns may be expressed in exercise obsession and muscle enhancing substance use (Bahrke et al., 2000; Cafri et al., 2005) rather than typical eating disordered behaviours. As proposed earlier by Brower and colleagues (1994), this may provide an explanation of what happens for men dissatisfied with their body size.

The health risks for AAS use are severe, including liver disease, heart disease, growth arrest, addiction, aggressiveness, cancer, and breast growth in males (Tanner et al., 1995). Case studies of AAS use have illustrated the devastating and sometimes fatal consequences. Yesalis, Courson, and Wright concluded that adolescents using AAS are at risk for premature skeletal maturation (growth retardation), suppressed spermatogenesis (sterility), and increased risk of muscular-skeletal injuries (as cited in Korkia, 1998). The immediate health consequences of steroid use include facial acne, nose bleeds, deepening of voice, increased appetite, increased body hair, water retention, baldness, testicular atrophy, and reproductive problems.

Researchers have highlighted the need to understand the present AAS culture of adolescents (e.g., Cafri et al., 2005; Smolak et al., 2005). Korkia (1998) and others have stated that the prevalence of AAS drugs in the present youth culture illustrates the adolescents' cultural emphasis on physical appearance and its effects on body image and

self-esteem. Smolak notes, "There is a desperate need for research that more intensely examines the link between body image and steroid and food supplement abuse in boys." (2004; pp. 22). The power of the media and the images to which young people aspire should be considered when studying AAS use and developing education and prevention programs.

Social Avoidance Behaviours

As previously discussed, children learn at a young age that physically attractive people are ascribed a wide range of positive characteristics. Attractive people are seen as "what-is-beautiful-is-good", thinness is equated with attractiveness for women, and muscularity is equated with attractiveness for men. When the individual, whether they be child, adolescent, or adult, doesn't meet this ideal standard of attractiveness, what do they think of themselves? How do they cope with this social comparison? One means is to avoid social activities that draw attention to the body, which would heighten body-awareness and the level of anxiety experienced by the individual.

Previous research has investigated the social anxiety experienced by individuals with a negative body image. The Body Image Avoidance Questionnaire (BIAQ), measured aspects of social anxiety experienced when placed in situations that heighten body awareness, such as wearing a bathing suit or weighing oneself (Rosen, Srebnik, Saltzberg, & Wendt, 1991). Similar to this social anxiety questionnaire, Sande and colleagues have also investigated social avoidance behaviors that occur in response to negative body image (Read, 1999; Sande & Buchanan, 1997). Some of the questions include, "I wear baggy or loose-fitting clothing in order to hide my body shape and size",

"I turn down social invitations because I feel uncomfortable about my body", and "I avoid situations in which people might notice my body shape and size". In preliminary investigations, adults between the ages of 17 and 64 reported engaging in behaviors to avoid social situations because of body shape and size (Read, 1999). Social avoidance behaviors were reported more often by men and women with negative body image. These are the individuals who avoid wearing shorts in the summer because the feel that their legs are too big or too skinny or avoid social invitations to the beach, cottage, or pool because they feel that they don't want to be seen in a bathing suit.

Schlundt and Johnson effectively summarize the consequences of body image dissatisfaction:

> Affectively, the fear results in feelings of anxiety, panic, and eventually depression. Cognitively, being thin is equated with being beautiful, competent, and successful... Behaviourally, the fear is manifest in almost any area of life. Socially, it can result in reluctance to take risks. And generally, it results in avoiding situations that are likely to elicit or exacerbate the fear (Schlundt & Johnson, 1990).

Summary

Until recently, there was relatively little investigation of the factors that influence body image experiences for school-age boys and girls (e.g., Edlund et al., 1996; Shapiro et al., 1997; Striegel-Moore et al., 2000; Williamson & Delin, 2001). However, over the previous five years, a plethora of research has been published that focuses on adolescents' and children's body image experiences. In recent years, the importance of the drive for muscularity has received increasing attention.

In this review, the role of psychological and social correlates or risk factors that contribute to the development of body image discrepancy for both boys and girls was examined. Over the past five years, studies have repeatedly demonstrated that children's attitudes about themselves are closely related to body shape (e.g., Guiney & Furlong, 2000; McCabe & Ricciardelli, 2001a; 2003b; 2004a). Various clusters of research into the development of body image have indicated that the media, parents, and peers may each contribute to the unhealthy attitudes and behaviours related to body image disturbance (e.g., Groesz et al., 2002; Guiney & Furlong, 2000; McCabe & Ricciardelli, 2003; Sands & Wardle, 2003; Smolak, 2004). Further studies have also demonstrated that there is a particular perfectionist cognitive style that characterizes individuals with body image disturbance and eating disorders (e.g., Geller et al., 2000; McGee, Hewitt, Sherry, Parkin, & Flett, 2005). According to a social-cognitive learning view, the media reflects societal messages on the individual; however, it is the developmental experiences of the individual within their subculture (influence of parents and peers), and the individual's perfectionist tendencies that also determine whether or not they internalize society's body image messages.

Current Research

The main objectives for this research were to (1) adapt measures of body image discrepancy designed to assess both male and female body image experiences for use with children, (2) document the prevalence of body image discrepancy in female and male students in Grades 5 through 12, and (3) examine sociocultural and individual influences on body image discrepancy, psychological well-being, and body size change strategies.

This research will extend our understanding of body image in a number of directions. This study is designed to measure sociocultural attitudes and experiences associated with body image discrepancy, psychological well-being, as well as body change behaviours and attitudes. The investigation of multifactorial body image assessment instruments, the Body Image Perceptions Scale (BIPS; Sande & Buchanan, 1994) and the Body Attitudes and Behaviours Scale (BABS; Sande & Buchanan, 1994), for use with school-age children is of particular interest in this research. In addition, this research focuses on documenting the incidence of body image discrepancy, psychological well-being, and maladaptive behaviors in Canadian students. As a result, this study provides prevalence estimates for the normal range of body image experiences in male and female students.

Hypotheses

This research investigates body image and specified factors that are predicted to influence the development of body image discrepancy and result from this discrepancy. Based on previous research, the following specific hypotheses are advanced:

1. Participants will exhibit two patterns in the frequencies of body image discrepancy, as measured by the Body Image Perceptions Scale for Children:
    a. On the linear scale (BILIN) of the Body Image Perceptions Scale for Children (BIPS-C), the majority of female students will report feeling 'too big' and male students will be nearly equally split with some male students feeling 'too big' and a slightly greater number feeling 'too small'.
    b. On the absolute scale (BIABS) of the Body Image Perceptions Scale for

Children (BIPS-C), male students and female students will report experiencing significant body image discrepancy, with similar magnitude and similar frequency.

2. Older students will have significantly higher levels of body image discrepancy as indicated on the Body Image Perceptions Scale for Children than the younger students, thus revealing a developmental trend.
3. Students [1] who report significantly higher scores on the Media Exposure Scale, and significantly greater levels of both the Acceptance sub-scale and the Internalization sub-scale of the Sociocultural Appearance Attitudes Survey for Children will report significantly greater body image discrepancy as indicated by the Body Image Perceptions Scale for Children.
4. Students who report significantly higher scores on the Body Criticism Scale, including both the Parent Criticism sub-scale and the Peer Criticism sub-scale, will report significantly greater body image discrepancy as indicated by the Body Image Perceptions Scale for Children.
5. Students who report significantly higher scores on the Perfectionism Scale for Children, including both Self-Oriented Perfectionism and Socially-Prescribed Perfectionism, will report significantly greater body image discrepancy as indicated by the Body Image Perceptions Scale for Children.
6. Students who reported significantly greater body image discrepancy as indicated by the Body Image Perceptions Scale for Children will report significantly lower levels of Psychological Well-Being.

7. Students who report significantly greater body image discrepancy, as indicated by the Body Image Perceptions Scale for Children, will report significantly negative effects on their body image attitudes and body change behaviours, as measured by the Body Image Attitudes and Behaviours Scale for Children (BABS-C) subscales. Specific hypotheses are advanced for each subscale:
    a. Students who report significantly greater body image discrepancy rating will report greater avoidance of social situations in which they perceive other people to be evaluating their body shape and size.
    b. Students who report significantly greater body image discrepancy rating will report greater body image self-consciousness, including both uncomfortable and embarrassed feelings about one's body.
    c. Students who report significantly greater body image discrepancy rating will report greater body image salience, including more often thinking about and aware of their body image.
    d. Students who report feeling 'too big' on the body image discrepancy rating scale will report greater size reduction behaviours.
    e. Students who report feeling 'too small' on the body image discrepancy rating scale will report greater size increase behaviours.

Method

Participants

Participants in this study were students in Grades 5 to 12 attending schools from the Manitoba Federation of Independent Schools (MFIS). The decision to not include

students younger than those in Grade 5 was based on two factors. First, the scale items would have to be significantly changed to accommodate the reading comprehension skills of students in Primary Grades. This would simplify the survey in a way that might render the questions less meaningful to older students. Second, previous research has identified that premenarchial or pre adolescent children do not have the same understanding of or exposure to dieting behaviors (Abraham & O'Dea, 2001). As a result, the sample of students completing the survey was restricted in order to limit the potential that completing the survey might actually trigger body image concerns for young students.

Principals of 21 MFIS schools with students in the target age group were sent letters describing the proposed research (see Appendix A). The principals were then contacted by telephone. Six principals declined to participate, while nine principals agreed to discuss their school's participation. Due to the success of the school recruitment, the remaining six MFIS schools were not contacted further. There was a total of 5629 students registered in the 21 schools contacted. There were 3462 students registered in the schools that agreed to participate. Letters were sent to the parents or guardians of those 3462 students (see Appendix B).

Demographics

Participants provided their sex, age, birth date, and grade for demographic information (see Appendix C). Socioeconomic status and ethnic composition of the sample were not obtained in the survey due to concerns expressed by some of the participating school administrations.

Measures

In a survey procedure developed by Sande and colleagues for use with student populations, the following measures were modified by removing numbers from the response items (McDonald, 1998). In order to eliminate any confusion about the value of a specific response, the points were anchored with the wording (i.e, "completely agree" to "completely disagree") and the students responded by marking the corresponding box. The numerical value was assigned when scoring the items.

The order of questionnaires was counterbalanced to control for order effects and participant fatigue. In the first version the antecedent measures were assessed first: Media Exposure Scale (MES), Body Criticism Scale (BCS), and Sociocultural Appearance Attitudes Survey for Children (SAAS-C) were placed before the other measures. In the second version the criterion measures were assessed first: the Body Image Perceptions Scale for Children (BIPS-C), Body Attitudes and Behaviours Scale for Children (BABS-C), Rosenberg Self-Esteem Scale for Children (RSES-C), Perfectionism Scale for Children (PSC), State Trait Anxiety Inventory for Children (STAIC), and Depression Self-Rating Scale (DSRS) were placed before the other measures.

Body Criticism Scale (BCS; see Appendix D). The Body Criticism Scale was developed by Guiney and Furlong (2000). The BCS evaluates whether and how often children, both males and females, received criticism about their body and who this criticism comes from. This scale consists of eight items that ask participants to rate how often they feel their weight, height, or attractiveness is criticized. For this research, the wording of the original BCS was altered from "Does anyone make you feel..." to "Does anyone tell you..." in order to measure the behaviour of criticism received from others,

rather than the respondents' feelings. The BCS scale includes such items as "Does anyone tell you that you need to lose weight?". Respondents rate each item on a 3- point scale of "never", "sometimes", or "a lot" (scored as 0, 1, and 2, respectively). The respondents then indicate the source(s) by circling which of the following people make these comments: mother, father, family, classmates, friends, or teachers.

Frequency ratings for each source of body criticism are calculated by multiplying the rating of each item by 0 if the person did not comment or by 1 if the person did comment and then adding the ratings for each of the eight items. Higher scores indicate more frequent body criticism. Peer based criticism is derived by adding the frequency ratings of classmates and friends. The family based criticism variable is derived by adding the frequency ratings of mother, father, and family. Total body criticism is derived by adding all frequency ratings for each of the eight items.

Media Exposure Scale (MES; see Appendix E). This self-report questionnaire was designed for this study to measure both the type and quantity of media exposure. The six questions measure the amount of time spent watching television, music videos, and movies across the week and weekend. Individual responses were combined to create a weekly index of total audio-visual media exposure. For example, one question asks "How many hours each weekday do you watch movies (including at the theater, at home rentals, satellite, or on television)?" The responses range from none (0) to more than 10 hours (10.5) with hours per day multiplied by five for weekday questions and two for weekend questions, and summed.

Sociocultural Appearance Attitudes Survey for Children (SAAS-C; see Appendix F).

The Sociocultural Appearance Attitudes Survey for Children (SAAS-C) is a modified version of the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ) originally developed by Heinberg, Thompson, and Stormer (1995). The SATAQ is a 14-items scale with two subscales, Awareness and Internalization. The Awareness scale evaluates the individual's recognition and awareness of societal messages regarding ideal body image. The Internalization scale evaluates the degree to which the individual internalizes societal standards regarding appearance for themselves.

The response options range from "completely disagree" to "completely agree" with higher scores indicating greater degree of awareness and internalization of societal messages regarding ideal body image. Heinberg et al. (1995) reported Chronbach alpha coefficients of .71 for Awareness and .88 for Internalization subscales. The original measure demonstrated adequate convergent validity with existing measures of body image disturbance and eating pathology (Heinberg et al., 1995).

For this study, items were modified to reflect sociocultural messages consistent with appearance standards for male and female students and in order to accommodate the lower levels of reading comprehension of Grade 5 students. For example, the original item "People who appear on TV shows and movies project the type of appearance that I see as my goal" was modified to "I want to look like the people on TV shows and in the movies". The Awareness scale includes such items as "In our society, most people think that fat people are unattractive.". The Internalization scale includes such items as "I tend to compare my body to people I see in magazines and on TV." Scores for males and females are calculated by including gender-specific questions in the totals for both scales.

Perfectionism Scale for Children (PSC; see Appendix G). The PSC is a 12-item scale modified from the Multidimensional Perfectionism Scale (MPS) by Hewitt and Flett (1991a). The original MPS of 45-items consisted of three scales: Self-Oriented Perfectionism, Other-Oriented Perfectionism, and Socially-Prescribed Perfectionism. The original scale was modified to a shorter version by Sande and colleagues to match the reading comprehension skills of students in earlier grades (McDonald, 1998). Self-Oriented Perfectionism (SOP) is defined as the tendency to set exact standards for oneself, to evaluate oneself harshly, and to incorporate a discrepancy between actual self and ideal self. Socially-Prescribed Perfectionism (SPP) includes the belief that significant others set exact standards and harshly evaluate oneself, and includes the need to attempt to meet these standards. The responses range from "strongly disagree" to "strongly agree" on a 7-point rating scale. Higher subscale scores indicate higher levels of perfectionist behavior.

Hewitt and Flett (1991a; 1991b) reported norms for the original MPS scale's reliability and validity. The coefficient alpha reliabilities for two subscales of interest were .86 for Self-Oriented Perfectionism, and .87 for Socially-Prescribed Perfectionism. Subscale intercorrelations (correlation range of $r = .25$ and .40) indicate the expected degree of overlap among the two dimensions of perfectionism. Convergent and discriminant validity were demonstrated by examining the MPS in combination with numerous personality and performance measures, for example: locus of control, Narcissistic Personality Inventory, Symptom Checklist-90-R (Hewitt & Flett, 1991a; Hewitt et al., 1991). Finally, test-retest reliabilities (ranging from .75 to .88) for the three subscales demonstrate the stability of this measure.

McDonald (1998) reported preliminary norms for the SPP and SOP scales. Chronbach's alpha coefficient scores were .78 for SPP and .69 for SOP scales. Means were 15.8 (SD = 3.2) and 16.0 (SD = 3.7) for the SPP scale, and 11.0 (SD = 3.4) and 12.0 (SD = 4.5) for the SOP scale, for males and females respectively. These two subscales demonstrated only a slight degree of overlap, $r = .17$, which would be expected (McDonald, 1998).

Body Image Perceptions Scale for Children (BIPS-C; see Appendix H). Based on the original adult measure developed by Sande and Buchanan (Buchanan, 1996), the Body image Perceptions Scale for Children measures the participant's self-perceived deviation from their own ideal body. The wording of the BIPS was slightly modified by Sande and McDonald (McDonald, 1998) in consideration of the difference between children and adults in reading comprehension skills.

Individuals responded to each item on a 7-point scale, indicating how they felt about various areas of their body from "much too small"(-3) through "just right" (0) to "much too big" (+3). Negative scores on the BIPS-C indicate that participants feel that their body is smaller than their ideal, and positive scores indicate that participants feel that their body is larger than their ideal. Scores for the BIPS-C range from -24 (much too small) through +24 (much too big). These scores are referred to as linear discrepancy (BILIN) scores.

From those linear discrepancy scores, absolute deviation scores were computed by changing all negative responses to positive. For example, responses of "slightly too big" and "slightly too small" are both coded at +1, or one unit of discrepancy from a rating of

"just right." Absolute deviation scores were then summed to create a scale (BIABS) with a possible range of 0 to 24, where 0 represents no difference between one's real and ideal body image, and 24 represents the maximum possible difference.

Previous research with the original BIPS scale reported high internal consistency (Chronbach's alpha coefficient = .91) with mean inter-item correlations of .50 (Buchanan, 1996). Convergent validity has been demonstrated by significant correlations with another instrument, the Body Figure Ratings Scale, that measures body image $r = .80$; Sande & Buchanan, 1994). Test-retest correlation of the BIPS, over a one month interval $r = .86$), was reported from the same study. McDonald (1998) reported preliminary norms for the BIPS-C. Means were 31.9 (SD = 2.8) and 33.6 (SD = 4.4) for 77 males and 92 females, respectively. Chronbach's alpha coefficient of .78 and a mean inter-item correlation of .36 were reported from the same study.

Rosenberg Self-Esteem Scale for Children (RSES-C; see Appendix I). The Rosenberg Self-Esteem Scale (RSES) was designed to be a unidimensional index of global self-esteem for use with high school students (Rosenberg, 1979), but has successfully been applied to diverse age ranges (Fischer, & Corcoran, 1994). The RSES is composed of 10 items scored on 7-point rating scales that are anchored by "strongly agree" to "strongly disagree". The positive items are scored from 1 "strongly disagree" to 7 "strongly agree", and reverse items are scored 1"strongly agree" to 7 "strongly disagree." Scores are obtained by summing the responses to each item and can range from 10 to 70, where higher scores represent greater levels of self-esteem.

Previous research reported stability (test-retest reliability of .85 and .88) and internal

consistency (Chronbach's alpha coefficient of .92) for the RSES (Fischer & Corcoran, 1994; Joiner & Kashubeck, 1996). Subjects who scored highly on the RSES also scored highly on the Coopersmith Self-Esteem Inventory, r =.60 (Joiner & Kashubeck, 1996). Griffiths and colleagues (1999) reported strong convergent and construct validity of the RSES.

The RSES was adapted by Sande and McDonald for use with children (McDonald, 1998). These adaptations included removal of the numbered responses and expansion of the 4-point rating scale to a 7-point rating scale. This would allow for greater consistency of response options between scales, thus simplifying the survey format for students. Furthermore, changes were made to the wording of one of the original questions. The original question was, "I feel that I am a person of worth, at least on an equal basis with others." The children's version is "I feel that I am a good person, about as good as other people". McDonald (1998) reported preliminary norms for this adapted version of the RSES for children. Chronbach's alpha coefficient scores were .83 and .86 for males and females, respectively. Means were 54.9 (SD = 9.6) and 50.2 (SD = 10.7) for males and females, respectively.

State-Trait Anxiety Inventory for Children (STAIC Form C2; see Appendix J). The STAIC (Spielberger, 1973) measures anxiety levels in children at the state and trait levels. The present study used the trait level anxiety measure of the STAIC which measures persistent or generalized anxiety experienced over time. The STAIC for trait anxiety consists of 20 items with four response options ranging from 1 "almost never" to 4 "almost always." Higher scores represent increased levels of generalized anxiety.

A number of studies have cited strong evidence of convergent validity (Reynolds & Richmond, 1978), concurrent validity (Nunn, 1988), and have supported the STAIC factor structure (Carey, Faulstich, & Carey, 1994; Hedl & Papay, 1982). Previous studies have provided evidence for the reliability and validity of the STAIC with 9- to 18- year old children with alpha reliabilities ranging from .78 to .91 (Cross & Huberty, 1993; Muris, Merckelbach, Ollendick, King, & Bogie, 2002; Psychountaki, Zervas, Karteroliotis, & Spielberger, 2003).

McDonald (1998) reported norms for the STAIC with a sub-sample of the student population in this study. Chronbach's alpha coefficient scores were .77 and .87 for males and females respectively. Means were 26.4 (SD = 4.5) and 29.4 (SD = 6.0) for males and females, respectively.

Depression Self-Rating Scale (DSRS; see Appendix K). This 18-item measure assesses the severity of depression in children between the ages of 7 and 14 years old (Birleson, 1981; Birleson, Hudson, Buchanan, & Wolff, 1987). The items of this scale refer to the affective, cognitive, and behavioral symptoms of depression. The DSRS items are scored on a 3-point ratings scale, with healthy items ranging from 0 "most of the time", 1 "sometimes", to 2 "never"and depressive symptoms scored from 2 "most of the time", 1 "sometimes", to 0 "never". Higher scores indicate a greater number of depressive symptoms experienced by the individual. The range of possible response scores is 0 to 36, with a cut-off score of 15 to discriminate between depressed and non-depressed children (Birleson et al., 1987).

The DSRS has demonstrated adequate internal consistency (coefficient alpha = .86)

and stability (test-retest reliability $r = .80$)(Fischer & Corcoran, 1994; Birleson et al., 1987). Previous researchers have reported good concurrent validity, correlating $r = .81$ ($p < 0.001$) with another measure of depression, Children's Depression Inventory (Kovacs, 1985). McDonald (1998) reported norms for the DSRS from a sample of high school children. Chronbach's alpha coefficient scores were .83 and .86 for males and females respectively. Means were 34.2 (SD = 6.5) and 38.8 (SD = 7.5) for males and females respectively. The wording of one item (item 4) was changed to be more acceptable to a wider age range. The statement "I like to go out to play" was changed to "I like to go out with my friends", as previously used by other authors (Ivarsson & Gillberg, 1997).

Body Attitudes and Behaviours Scale for Children (BABS-C; see Appendix L). Based on the original measure developed by Sande and Buchanan (Buchanan, 1996), the Body Attitudes Behaviours Scale for Children (BABS-C) is a multidimensional measure of behaviors and attitudes associated with body image. Individuals responded on 7-point rating scales indicating the extent to which they agree with statements describing thoughts and feelings about their body and appearance.

The three original scales used in this study were Social Avoidance (SA), Size Reduction Behaviours SRB), and Size Increase Behaviours (SIB). Social Avoidance measures the extent to which the individual will avoid social situations in which other people can see their body shape and size (e.g., a swimming pool). It includes the item, "I wear baggy or loose-fitting clothing in order to hide my body shape and size." The Size Reduction Behaviors and Size Increase Behaviors are indicators of the extent to which the individual engages in behaviours to make their body size smaller or larger. The SRB scale

includes such items as "Sometimes I eat less because I don't want to be fat." The SIB scale includes such items as "Sometimes I eat more because I don't want to be skinny."

McDonald (1998) reported preliminary norms for the BABS-C. Chronbach's alpha coefficient scores were .56 for Social Avoidance (SA), .74 for Size Reduction Behaviours (SRB), and 0.66 for the Size Increase Behaviors (SIB) factors. Means were 21.8 (SD = 2.8) and 19.7 (SD = 4.0) for the Social Avoidance scale, 10.8 (SD = 1.4) and 9.5 (SD = 2.7) for the Size Reduction Behaviours scale, 10.8 (SD = 1.6) and 10.8 (SD = 1.8) for the Size Increase Behaviors scale for males and females, respectively.

The items of the BABS-C were modified for this study for the purposes of further questionnaire development and empirical testing with children (see Appendix M). The factor structure and reliability item analysis for this scale will be discussed later.

Procedure

Permission to conduct research and contact the member schools of the Manitoba Federation of Independent Schools (MFIS) was obtained from the school board. Principals of twenty-one MFIS schools with students in the target age group were sent letters describing the proposed research (see Appendix A). The primary researcher and research supervisor met with each participating school's administrative staff. Ten presentations were made to the school administration and one presentation was made to a school council. One school declined to participate after the research presentation, nine agreed to participate.

Presentations were made to each school's teaching and academic staff to discuss the research, to explain their participation in the survey, and to answer any questions or

concerns. Directions were standardized to ensure that all school staff received the same information and instructions. The school administration and staff agreed to the research procedure and received copies of the research outline and survey instructions. Each school provided the researcher with class lists and distributed parent consent packages to classrooms for students to take home. The class lists contained names and home phone numbers of all current registered students. Unlisted phone numbers were not available for use in this research. These class lists were treated as confidential information.

One month prior to the survey date, all students received a parent consent package containing a letter explaining the research and a parent/guardian permission form (see Appendix N). The parental permission letter outlined each of the following: the purpose of the research, what was to be asked of their child, the handling of the survey packages, confidentiality and anonymity of the responses, and the voluntary nature of their child's participation. The parents were offered the opportunity to receive a summary of the study results by either completing a separate feedback request form or by sending an email to the primary researcher. The written request for feedback was to be enclosed in a sealed envelope or mailed separately to ensure confidentiality of the participants. The parents enclosed all materials in a pre-addressed, postage-paid envelope to be mailed directly to the primary researcher at the University of Manitoba. Upon receipt of the envelopes from the parents, the feedback request form and parent permission letters were immediately separated and stored in a secure location at the University of Manitoba.

When a parent permission letter was not received, research assistants contacted the parents by telephone to verbally present the research and obtain the parent's answer about

the student's research participation. Research assistants received approximately one hour of training to standardize the research predated protocol for telephone contact with parents (see Appendix O). The original research letter and parent permission forms were subsequently emailed, faxed, and/or mailed to the parent/guardian in order to maximize written parental response.

Parent permission was recorded on the class lists and survey packages were prepared for each student in every class. Every student received an envelope with his or her name written on the outside envelope flap. If a parent previously agreed to the student's participation, then the student received an envelope containing a double-sided, nine page survey package including a blank top sheet, a student consent form (see Appendix P), a survey instruction sheet, and ten questionnaires. The survey instruction sheet briefly outlined how to answer the questions, provided an example of a question, and cautioned the student to work carefully and independently (see Appendix Q). If a parent did not agree to the student's participation, then the student received a non-research related activity in the student package (see Appendix R). This alternative activity involved reading and writing activities, so all students remained seated at their desks. Every student in the class received an envelope with an activity to complete during the class time, either the research survey or the non-research related activity.

Research assistants received approximately two hours of training about the research protocol to be followed in the schools. The primary researcher and eight to ten research assistants attended the school to administer the survey to all classrooms with students in grades 5 through 12 during the same class time. This simultaneous testing procedure was

done so that information about the survey contents could not be exchanged among students before some of them had a chance to participate. Classroom packages were distributed throughout the school and each classroom was monitored by a research assistant. Each classroom teacher received a package that included a copy of the survey instructions and the script for the teacher to read to the students (see Appendix S), student packages for every student in the class, and extra non-research related activities. The extra non-research related activities were included for those students whose parents agreed to their participation, but chose not to participate in the survey.

In the classroom, students were verbally briefed about the research by their home room teacher. The students were instructed about the handling of the survey packages, confidentiality, and anonymity of the responses. Included in the teacher's introductory statement was a thorough explanation that their participation was completely voluntary, that they could discontinue their participation at any time, and that there would be no penalty for not participating. Each participating student was asked to sign the consent form on the top page of their survey package. If the student indicated to the teacher that they did not wish to participate in the study, the teacher exchanged the survey package with a non-research related activity package. Every attempt was made to ensure that no student felt uncomfortable about not participating in the study. It was not readily apparent to the students who was or was not participating in the survey.

In order to avoid students' influencing each other's responses, all students in grades 5 through 12 attending the school completed the survey at the same time. The students were seated in their desks, in their regularly scheduled class, and were carefully

monitored by their teacher to ensure that students' individually responded to the survey. The teacher was available to the students to answer any questions. In addition, the primary researcher and research assistants were in the hallway outside of the classrooms and were available to answer questions or concerns that arose. The survey, including the teacher's introduction to the survey, was completed during one class period of 45 to 50 minutes.

Once the students completed the survey or the non-research activity, they enclosed the materials in the envelope. At the end of the class time, the students tore off the envelope flap with their name on it and handed the envelope to the teachers. At the end of the class time, the surveys were collected from each classroom teacher. Upon returning to the research lab at the University of Manitoba, each student envelope was separated and sorted for consent forms, completed surveys, and non-research related activities. The surveys were numbered for the participating school and the non-research related activities were counted and stored. The student consent forms were stored with the class lists and parent consent forms.

Feedback was not provided to the students, teachers, school administration, nor parents immediately after the survey. The performance of any one student cannot be identified. One student's survey was not included in the data because the student used a unique pen to sign the consent form and complete the survey, which would provided a way of identifying the student's data. In March 2003, a summary of the results was provided to the school administration and teachers (see Appendix T), and to the parents (see Appendix U). The participants of this research project were treated in accordance

with the ethical standards of the University of Manitoba Human Ethics Research Board, the Canadian Psychological Association, and the American Psychological Association.

Throughout the activities of this survey, the school administration, teachers, parents, and students were informed that if any concerns or problems arose for any individual student, the principal investigator was available for consultation and to provide information about service providers in the community.[2]

Results

The presentation of results is as follows. Presented first is a report on the data handling procedures including data screening and an examination of the assumptions of normality and the distribution characteristics. Second, an examination of scale characteristics is presented, including Chronbach's alphas and item-total correlations. Where possible, scale means were compared to previous results (BCS, DSRS, RSES-C, STAIC, PSC, and BIPS-C). However, the MES, SAAS-C, and the BABS-C were significantly modified or developed for this research, so comparison to previous data is not possible for these measures. This is followed by a report on survey participation rates and sample demographics. Third, sex differences and grade level differences on each measure are reported. This is done using a series of 2 (sex) x 2 (grade level: early, later) Analyses of Variance (ANOVAs). A Chi-squared analysis was used to provide further understanding of the distributions of the body image discrepancy (BILIN) scores for males and females across grade groups. Fourth, a series of multiple linear regression analyses were used to examine the relationships between variables as outlined by hypotheses three through seven.

Data Handling

Data were screened for missing values, data entry errors, and univariate and multivariate outliers. Missing value analysis revealed no patterns of missing data. Variables with limited missing data, between 0.2 % and 1.7%, had missing values replaced with the individual variable mean, as recommended by Tabachnick and Fidell (2001). Univariate outliers were examined and data entry errors were corrected. Cases with multivariate outliers as identified by an extreme score on the Mahalanobis distance statistic (mah > 42.312 for n = 2306) were not included in subsequent analysis for this research (n = 83).

Assumptions of normality and the distribution characteristics of the data were examined. For most variables in this study, indices of skewness and kurtosis are generally consistent with univariate normality. However, for those scales with skewness or nonnormal kurtosis, Tabachnick and Fidell (2000) suggested that the underestimation of variance disappears with large sample sizes (n > 200). As reported in Table 1.1, several scales exhibited a high degree of skewness and kurtosis. These results are generally consistent with expectations. For example, most students reported experiencing few depressive symptoms while a small subgroup reported experiencing symptoms more frequently and with greater distress, which produces positively skewed and platykurtic distributions. As a result of the large sample size, data transformation procedures to improve the distribution characteristics of individual variables were determined to be unnecessary. Finally, variables were screened for multicollinearity and singularity with all relationships found to be within an acceptable range. Table 1.2 summarizes correlations

between measures, separately for male and female students.

Survey Participation Rates

Replies were received from 88% (n = 3033) of the parents/legal guardians, with 84% of those replying (n = 2538) consenting to their child(ren)'s participation and 16% (n = 495) declining (see Table 2). Upon investigation of the consent rates, proportionately more parents from the rural school (96%) agreed to their child participating in the survey than parents from urban schools (83%). Approximately the same proportion of parents from single sex (82%) and coeducational (84%) schools agreed to their child participating in the survey. Proportionately more parents from schools with a religious affiliation (85%) agreed to their child participating in the survey than parents from schools with no religious affiliation (76%) (see Table 3).

Five percent (n = 144) of the students were absent from school on the day of the survey. Another two percent (n = 63) of the students, whose parents agreed to their participation, decided to not participate in the survey. The data from one Grade 12 class (n = 25) were eliminated from the data set because a research assistant observed the teacher instructing the students to not sign the consent forms and observed that the students talked throughout the survey session.

Demographics

In total, 2306 students completed the survey. Approximately one half (51%) of the subjects were male students (n = 1181) and one half (49%) were female students (n = 1125). Students ranged in age from 10 to 19 years old (mean age = 14.7 years, SD = 1.92 years). The vast majority (n = 2198 or 95%) of students attended schools located in an

urban environment and 5% (n = 108) students attended a rural school in a small town. Sixty-seven percent (n = 1541) of the students attended co-educational schools and 33% (n = 765) attended single-gender schools. Most of the students (84.3%) attended schools with a religious affiliation (n = 1945). The total number of student participants from each grade is reported in Table 4.

Sample sizes for the two versions of the questionnaire were: 1168 students (50.7%; 589 females and 579 males) completed one version, and 1138 students (49.3%; 546 females and 592 males) completed the second version. Although the order of measures was counterbalanced, analyses did not include order as a factor because the large number of participants would have made trivial and/or inexplicable order effects inevitable.

Due to the relatively small sample of students in Grades 5 and 6 relative to the older grades, a post-hoc analysis was conducted to determine the minimal sample size required for adequate power in the current study (G*Power, Faul & Erdfelder, 1992). Power of .81 was met when examining the effect size of F = .20; alpha = .05, 1-tailed test), t' (631) = 1.647, with the sample split into four groups: 541 males and 534 females in Grades 5 to 9, 629 males and 589 females in Grades 10 to 12 (13 students were missing grade information). In the analysis of variance (ANOVAs) analyses to be presented, the sample was subdivided into two grade groupings, early grades (Grades 5 to 9) and later grades (Grades 10 to 12).

Due to the large sample and the relatively large number of analyses conducted in this research, an a priori decision was made to adopt a more conservative criterion for evaluating significance. Specifically, all hypotheses were evaluated at $p < .01$ (2-tailed)

rather than the traditional $p < .05$ (2-tailed). The more stringent criterion was chosen to help control overall experiment-wise error rates and to help minimize the potential for focusing on trivial or spurious effects.

Scale Characteristics

See Tables 5.1 and 5.2 for descriptive statistics for male and female students and the internal consistency of all measures. See Table 5.3 and 5.4 for descriptive statistics for earlier grade (Grade 5 to 9) and later grade (Grade 10 to 12) students.

Media Exposure Scale (MES)

Internal consistency of the MES as measured by Chronbach's alpha coefficient was 0.74 for males and 0.78 for females, indicating adequate internal consistency (see Tables 5.1 and 5.2). The correlations between each item and the MES total score were significant for all items, ranging from 0.59 to 0.79 ($p < .001$, 2-tailed) for males and 0.56 to 0.77 ($p < .001$, 2-tailed) for females.

Sociocultural Appearance Attitudes Survey for Children (SAAS-C)

The two factors measured in this research correspond to previously established factors of the SATAQ: Sociocultural Awareness (SA-Aware) and Sociocultural Internalization (SA-Intern). Internal consistency of the SAAS-C factors as measured by Chronbach's alpha coefficient was 0.73 and 0.80 for SA-Aware, 0.85 and 0.92 for SA-Intern, for males and females, respectively (see Tables 5.1 and 5.2). These reliability coefficients indicate adequate internal consistency for both factors. The degree of association between the two factors was $r = 0.58$ ($p <.001$, 2-tailed) for males and $r =$

0.66 (p <.001, 2-tailed) for females.

The correlations between individual items and the SAAS-C factor scores were significant for all items. SA-Aware factor correlations with individual items ranged from 0.31 to 0.66 ($p < .001$, 2-tailed) for males and 0.45 to 0.67 ($p < .001$, 2-tailed) for females. SA-Intern factor correlations with individual items ranged from 0.50 to 0.80 ($p < .001$, 2-tailed) for males and 0.65 to 0.84 ($p < .001$, 2-tailed) for females.

Body Criticism Scales (BCS)

Internal consistency of the BCS as measured by Chronbach's alpha coefficient was 0.85 for males and 0.75 for females, indicating adequate internal consistency. The correlations between individual items and the BCS total score were significant for all items, ranging from 0.61 to 0.81 ($p < .001$, 2-tailed) for males and 0.40 to 0.75 ($p < .001$, 2-tailed) for females. The BCS subscales include body focussed criticism from family members (BCFAM) namely mother, father, and other family (3 items) and body focussed criticism from peers (BCPEER) namely classmates and friends (2 items). The correlation between the two sub-scales (BCPEER * BCFAM) was 0.59 for males ($p < .001$, 2-tailed) and 0.43 for females ($p < .001$, 2-tailed).

Perfectionism Scale for Children (PSC)

The two factors used in this measure correspond to previously established factors of Self-Oriented Perfectionism (SOP) and Socially-Prescribed Perfectionism (SPP; Hewitt et al., 1991a). Internal consistency of the PSC factors as measured by Chronbach's alpha coefficient was 0.76 and 0.79 for SOP, 0.71 and 0.77 for SPP, for males and females, respectively (see Tables 5.1 and 5.2). These reliability coefficients indicate adequate

internal consistency for both factors. The degree of association between the two factors was $r = 0.19$ ($p < .001$, 2-tailed) for males and $r = 0.24$ ($p < .001$, 2-tailed) for females.

The correlations between individual items and the PSC factor scores were significant for all items. SOP factor correlations with individual items ranged from 0.63 to 0.70 ($p < .001$, 2-tailed) for males and 0.66 to 0.76 ($p < .001$, 2-tailed) for females. SPP factor correlations with individual items ranged from 0.60 to 0.79 ($p < .001$, 2-tailed) for males and 0.56 to 0.81 ($p < .001$, 2-tailed) for females.

Means for the PSC are within one standard deviation of the means obtained from a sample of Grade 5 to Grade 10 male and female students in Winnipeg (McDonald, 1998).

Body Image Perceptions Scale for Children (BIPS-C)

Two scores were calculated from the BIPS-C measure. The BIPS-C linear scale (BILIN) is the sum of raw scores on the eight items. Each item has a score of - 4 to +4, so total scores for the BILIN range from -24 (the perception that one's body is much too small) through +24 (the perception that one's body is much too big). Internal consistency of the BILIN as measured by Chronbach's alpha coefficient was 0.83 for males and 0.82 for females, indicating adequate internal consistency (see Tables 5.1 and 5.2). The correlations between individual items and the total BILIN score were significant for all items, ranging from 0.46 to 0.77 ($p < .001$, 2-tailed) for males and 0.46 to 0.77 ($p < .001$, 2-tailed) for females.

Absolute deviation scores were also calculated from participants' responses to the BIPS-C measure. The response for each item was converted to the absolute deviation from the midpoint, labeled "just right." So, for example, a response of "slightly too big"

(normally +1) and a response of "slightly too small" (normally -1) each were scored as +1. The total of these deviation scores is called Body Image Absolute Score (BIABS), and can range from 0 through 24. Internal consistency of the BIABS as measured by Chronbach's alpha coefficient was 0.83 for males and 0.79 for females, indicating adequate internal consistency. The correlations between individual items and the total BIABS score were significant for all items, ranging from 0.58 to 0.79 ($p < .001$, 2-tailed) for males and 0.42 to 0.82 ($p < .001$, 2-tailed) for females.

Rosenberg Self-Esteem Scale for Children (RSES-C)

Internal consistency of the RSES-C, as assessed by Chronbach's alpha coefficient was 0.87 for males and 0.89 for females, indicating high internal consistency (see Tables 5.1 and 5.2). The correlations between individual items and the RSES-C total score were significant for all items, ranging from 0.55 to 0.75 ($p < .001$, 2-tailed) for males and 0.65 to 0.78 ($p < .001$, 2-tailed) for females.

Means for the RSES-C are within one standard deviation of the norms for a Canadian university female student sample (Geller et al., 1997) and for an Australian private school sample of 12 to 18 year-old male and female students (Kostanski & Gullone, 1998).

State Trait Anxiety Inventory for Children - Trait Scale (STAIC)

Internal consistency of the STAIC as measured by the Chronbach's alpha coefficient was 0.88 for males and 0.89 for females, indicating high internal consistency (see Tables 5.1 and 5.2). The correlations between individual items and the STAIC total score were significant for all items, ranging from 0.43 to 0.68 ($p < .001$, 2-tailed) for males and 0.33

to 0.68 ($p < .001$, 2-tailed) for females.

Means for the STAIC are within one standard deviation of the norms for a sample of grade seven and grade eight students in urban and rural American schools (Cross & Huberty, 1993).

Depression Self-Rating Scale (DSRS)

Internal consistency of the DSRS as measured by the Chronbach's alpha coefficient was 0.82 for males and 0.85 for females, indicating high internal consistency (see Tables 5.1 and 5.2). The correlations between individual items and the DSRS total score were significant for all items, ranging from 0.30 to 0.66 ($p < .001$, 2-tailed) for males and 0.30 to 0.69 ($p < .001$, 2-tailed) for females. Means for the DSRS are within one standard deviation of the norms for an urban school student sample (Ivarsson & Gillberg, 1997).

Birleson and colleagues (1987) established a cut-off score of 15 to classify children as clinically depressed. In the current study, 8.4% (94) of male and 12.9% (142) of female students had scores at or above the cut-off score of 15. Ivarsson and Gillberg (1997), suggested that students scoring above the 95th percentile are conveying a dysphoric character. In this research 5.5% (62) of male and 5.7% (63) of female students scored above the 95th percentile, endorsing "most of the time" for such items as "I feel like crying", "I (never) have lots of energy", "I think life isn't worth living", "I am (never) easily cheered up", and "I feel so sad that I can hardly stand it."

For item 10, " I think life isn't worth living", 4.5% (50) of male and 4.0% (44) of female students endorsed thinking this 'most of the time', whereas, 75.9% (849) of male and 72.3% (798) of female students endorsed 'never' thinking of this. Ivarsson and

Gillberg (1997) reported similar findings for Swedish adolescents (almost 4%) with DSRS item 10.[3]

Psychological Well-Being (PWB)

Three scales were combined into a single measure of psychological well-being: depression symptoms (DSRS), anxiety symptoms (STAI-C), and self-esteem (RSES-C). The total score for RSES has a possible range of 10 to 70, a midpoint of 40, and a mode of 70 for males and 56 for females. Higher scores represent greater general self-esteem. The total score for DSRS has a possible range of 0 to 36, a midpoint of 18, and a mode of 4 for males and 8 for females. Higher scores indicate a greater number of depressive symptoms. The total score for STAIC has a possible range of 20 to 80, a midpoint of 50, and a mode of 34 for males and 36 for females. Higher scores indicate a greater degree of anxious feelings and symptoms. The calculation of the Psychological Well-being composite score included converting the DSRS and STAIC scores so that higher numbers represented greater well-being (lower depression and anxiety). These converted scores were simply added to the self-esteem scores. Based on the strong correlations between these three affective scales (mean $r = .75$ for males and mean $r = .80$ for females), they were combined into a single measure of psychological well being for all subsequent analyses (see Table 6).

Body Attitudes and Behaviours Scale for Children (BABS-C)

Responses to the 24 BABS-C items were examine with a Principal Components factor analysis using the Varimax rotation extraction method. This analysis yielded five factors with Eigenvalues greater than 1.0 and accounting for 57.3 % of the total variance

(see Table 7). The minimum coefficient of .40 was used to count a variable as loading on a factor. Two items, questions 10 and 12, did not clearly load on one factor. Thus, these items were not used in the BABS-C factor structure and are not included in further analyses. See Table 8.1 for a summary of the factor loadings for items on the five factors. Body image avoidance (BI-Avoid) measures the extent to which individuals avoid social situations in which they perceive other people to be evaluating their body shape and size (e.g., a swimming pool). Body image self-consciousness (BI-Selfcons) measures the degree of self-awareness, and both the uncomfortable and embarrassed feelings about one's body image. Body image salience (BI-Salience) measures the extent to which the individual is self-aware of and thinks about one's own body image. The size reduction behaviours (SRB) and size increase behaviours (SIB) are indicators of the extent to which the individual engages in behaviours to make their body size smaller or larger, respectively. Internal consistency of the BABS-C factors, as measured by the Chronbach's alpha coefficient, ranged from 0.70 to 0.78 for males and 0.76 to 0.81 for females, indicating adequate internal consistency.

The correlations between each item and the five factors' total scores were significant for all items. Correlations between individual items and the BI-Avoid factor ranged from 0.55 to 0.76 ($p < .001$, 2-tailed) for males and 0.56 to 0.76 ($p < .001$, 2-tailed) for females. The correlations between individual items and the BI-Salience factor ranged from 0.70 to 0.82 ($p < .001$, 2-tailed) for males and from 0.73 to 0.83 ($p < .001$, 2-tailed) for females. The correlations between individual items and the BI-Selfcons factor ranged from 0.78 to 0.84 ($p < .001$, 2-tailed) for males and from 0.80 to 0.88 ($p < .001$, 2-tailed)

for females. The correlations between individual items and the SRB factor ranged from 0.62 to 0.80 ($p < .001$, 2-tailed) for males and from 0.71 to 0.84 ($p < .001$, 2-tailed) for females. The correlations between individual items and the SIB factor ranged from 0.70 to 0.85 ($p < .001$, 2-tailed) for males and from 0.70 to 0.86 ($p < .001$, 2-tailed) for females.

Correlations between the BABS-C factors ranged from .01 to .54 for males and -.09 to .56 for females (see Table 8.2). These results confirm that the BABS-C factors are not highly correlated and do not suffer from multicollinearlity (i.e., correlations above .80). As a result, these factors can be viewed as separate and meaningful measures.

Analysis of Group Differences by Sex and by Grade Group

Hypothesis 1a. predicted that the majority of female students would report feeling 'too big' and male students would be nearly equally split with some male students feeling 'too big' and a slightly greater number feeling 'too small' using the BIPS-C linear score. This hypothesis was confirmed.

An inspection of the distribution of scores reveals the specific trends (see Figure 1). The vast majority of female students report body image discrepancy (88.5%). Most females who experience body image discrepancy see themselves as being too big (66.9% of the female students), while only 21.6% see themselves as too small. The distribution of BILIN scores for males is very different. The large majority of male students do, in fact, experience a body image discrepancy (77.2%). However, nearly equal numbers of male students see themselves as too small (40.2%) and too large (37.0%; see Table 9). Averaging the BILIN scores for these two groups of males yields a mean score near zero,

which might lead to the mistaken conclusion that most males see their bodies as "just right" and experience no body image discrepancy. See Table 10 for the means scores for the following analyses of variances, with the means listed separately for male and female students, and students in the early grade group and the late grade group.

In order to examine the impact of gender (male:female) and age (Grades 5 to 9: Grades 10 to 12) differences on participants body image discrepancy ratings, 2 (sex) x 2 (grade level) ANOVAs were performed with body image discrepancy (BILIN) as the dependent measure. This yielded a significant main effect for sex, $F(1, 2289) = 196.11, p < .001$. The mean score for females ($M = 2.96$) is greater than the score for males ($M = 0.19$).

Hypothesis 1b. predicted that male students and female students would report experiencing significant body image discrepancy, with similar magnitude and similar frequency, using the absolute scale (BIABS) of the Body Image Perceptions Scale for Children (BIPS-C). This hypothesis was not supported by the results.

Because the BILIN scores are distributed much differently for male and female participants, and because averaged linear scores are misleading, absolute deviation scores (BIABS) were analyzed using a 2 (sex) x 2 (grade level) ANOVA (see Table 11). This yielded a significant main effect for sex, $F(1, 2289) = 127.33, p < .001$. The mean score for females ($M = 5.63$) is greater than the score for males ($M = 3.83$). This analysis also yielded a main effect for grade level, $F(1, 2289) = 56.35, p < .001$. BIABS scores increased from the early grades ($M = 4.12$) to the later grades ($M = 5.29$). The interaction was not significant. The mean BIABS scores increased over time for both males (3.41 to

4.24) and females (4.85 to 6.41). Figures 2 and 3 illustrate the developmental trends for male and female students, respectively, across grades.

The distributions of the BILIN scores for males and females across grade groups (Early: Grades 5 to 9; Later: Grades 10-12) were analyzed using the Chi-squared statistic to explore these findings further (see Table 12). The percentage of male students who see themselves as too small increased from the early grades (178 out of 541 students, or 32.9%) to the later grades (294 out of 629 students, or 46.8%), χ^2 (1) = 28.51, $p < .01$. By the time they are in Grade 12, 48% of male students see themselves as too small. For female students, two trends emerge from the distribution of BILIN scores across grades. First, the percentage of female students who saw themselves as too small decreased from the early grades (141 of 534 students, or 26.4%) to the later grades (100 of 589 students, or 17.0 %), χ^2 (1) = 6.98, $p < .01$ (see Table 12). Second, the percentage of female students who saw themselves as too large increased from the early grades (315 of 534 students, or 59.0%) to the later grades (438 of 589 students, or 74.4%), χ^2 (1) = 20.09, $p < .01$. By the time they are in Grade 12, 82% of female students saw themselves as too big. Figures 4 and 5 illustrate the changes in the distribution of body image groups for male and female students, respectively, across the grade groups.

Measures that Influence the Development of Body Image

In order to examine the impact of gender (male:female) and age differences (Grades 5 to 9: Grades 10 to 12) on participants' ratings for variables associated with the development of body image discrepancy, 2 (sex) x 2 (grade level) ANOVAs were

performed with media effects (MES, SA-Aware, SA-Intern), and body criticism (BC Family, BC Peer, BC Total), and perfectionism (SOP, SPP) as the dependent measures, respectively. Separate ANOVAs were examined for each variable (i.e., media exposure, awareness, internalization, criticism from family, criticism from peers, total criticism, self-oriented perfectionism, and socially-prescribed perfectionism).

Media Exposure Scale. The total Media Exposure Scale has a possible range of 0 to 220 hours, a midpoint of 110, and a mode of 17.50 hours for males and 28 hours for females. The 2 (sex) x 2 (grade level) ANOVA yielded a significant main effect for sex of participant, $F(1, 2289) = 33.06, p < .001$ (see Table 13). Male participants reported spending more time watching television (38.19 hours per week) than did female participants (32.39 hours). In addition, there was a main effect for grade level, $F(1, 2289) = 15.65, p < .001$. Students in earlier grades (M = 37.43) reported more hours of overall television watching than did students in later grades (M = 33.52). There was no significant sex by grade interaction.

SA-Awareness. The sociocultural awareness scale has a possible range of 10 to 50, a midpoint of 30, and a mode of 28 for males and 26 for females. The ANOVA yielded a main effect for sex of participant, $F(1,2289) = 8.49, p < .01$ (see Table 13). The mean score for males (M = 27.20) was greater than that for females (M = 26.53). There was also a main effect for grade level, $F(1, 2289) = 49.74, p < .001$. Students in later grades (M = 27.64) reported more awareness of the cultural messages about body image than did students in earlier grades (M = 26.01). There was no significant sex by grade interaction effect. These scores indicate that, on average, most participants responded near the

midpoint ("neither agree nor disagree") on the items.

SA-Internalization. The total score of internalization of cultural standards for body image (SA-Intern) has a possible range of 9 to 45, a midpoint of 27, and a mode of 13 for males and 29 for females. The ANOVA yielded a main effect for sex of participant, $F(1, 2289) = 148.23, p < .001$ (see Table 13). Female students scored higher on the measure of Internalization (M = 26.43) than did male students (M = 22.17). These scores mean that most boys moderately disagreed with the items, whereas most girls responded near the midpoint. For example, in responding to the item "I tend to compare my body to people in magazines and on TV", most boys moderately disagreed (M = 2.13), whereas most girls slightly agreed (M = 2.96). In addition, there was a significant main effect for grade level, $F(1, 2289) = 164.98, p < .001$. Students in later grades (M = 26.34) reported greater internalization of the cultural standards about body image than did students in earlier grades (M = 21.90). There was no significant sex by grade interaction.

An inspection of the scores for the three media-based variables (i.e., Media Exposure Scale, Sociocultural Awareness, Sociocultural Internalization) reveals a developmental trend in the effects of the media on students' body image ratings. Students in later grades watch less television (i.e., MES) than students in early grades. Yet, students in later grades have greater awareness of the cultural messages about body image than students in early grades. Students in later grades also reported greater internalization of the cultural standards about body image than students in early grades. These finding suggest that students in later grades are not exposed to as much television media; however, despite this there is greater awareness and internalization of the media messages that they are

exposed to. As a result, adolescents (i.e., students in Grades 10 to 12) appear to be more vulnerable than 10- to 14- year old children (i.e., students in Grades 5 to 9) to sociocultural messages about body image.

Body Criticism Scales (BCS). Two subscales, body criticism from family (BC Family) and body criticism from peers (BC Peers), and the total score were examined to evaluate the impact of gender (male:female) and age differences (Grades 5 to 9: Grades 10 to 12) on participants ratings. The Body Criticism Scale total score includes items from the BC family subscale, the BC peers subscale, and the body focussed criticism from teachers item.

The body criticism from family (BC Family) score has a possible range of 0 to 30, a midpoint of 1, and a mode of 0 for males and females. The ANOVA yielded no significant main effect for sex of participant (see Table 14). Means for males and females on the Body Criticism- Family subscale were 2.15 and 2.04, respectively. These scores mean that most participants, boys and girls alike, reported little body focussed criticism from family. The analysis yielded no significant main effect for grade level (see Table 14). Means for students in earlier grades and later grades were 1.92 and 2.28, respectively. There was no significant sex by grade interaction.

The body criticism from peers (BC Peers) score has a possible range of 0 to 30, a midpoint of 1, and a mode of 0 for males and females. The ANOVA yielded no significant main effect for sex of participant (see Table 14). Means for males and females on the BC Peers scale were 2.63 and 2.34, respectively. These scores mean that most participants, boys and girls alike, reported little body focussed criticism from peers. The

analysis did not yield a main effect for grade level, F (1, 2289) = 6.48, p <.05. Means for earlier and later grades on the BC Peers scale were 2.32 and 2.65, respectively. These scores mean that most participants, students in early or later grades alike, reported little body focussed criticism from peers. There was no significant sex by grade interaction.

The total score for BCS has a possible range of 0 to 66, a midpoint of 33, and a mode of 0 for males and 1 for females. The ANOVA yielded no significant main effect for sex of participant (see Table 14). Means for males and females on the BCS were 5.01 and 4.40, respectively. These scores mean that most participants, boys and girls alike, reported little body focussed criticism from family, peers, or teachers. The analysis did yield a main effect for grade level, F (1, 2289) = 7.94, p < .01. Students in later grades (M = 5.12) reported being the target of more body focussed criticism than did students in earlier grades (M = 4.38).There was no significant sex by grade interaction.

Self Oriented Perfectionism (SOP). Total self-oriented perfectionism scores have a possible range of 6 to 42, a midpoint of 24, and a mode of 28 for males and 29 for females. The ANOVA yielded no main effect for sex of participant. Means for males and females on the SOP were 28.36 and 27.65, respectively. This score means that most participants responded near the scale midpoints, neither strongly agreeing nor disagreeing with those items. For example, on the item "When I work on something, it's important to me that the job is done perfectly", most people moderately agreed with this statement. Therefore, having a moderate level of perfectionist standards for one's self appears to be common for both male and female students.

The ANOVA yielded a main effect for grade level, F(1, 2289) = 21.07, p < .001 (see

Table 15). Students in later grades (M = 28.67) reported more self-oriented perfectionism than students in earlier grades (M = 27.26). There was also a significant sex by grade level interaction, F (1, 2289) = 7.40, p <.01. Self-oriented perfectionism increased across grade levels for female students (earlier grades M = 26.49 and later grades M = 28.75), but remained the same over time for male students from earlier grades (M = 28.03) to later grades (M = 28.61).

Socially-Prescribed Perfectionism (SPP). The total for socially-prescribed perfectionism has a possible range of 6 to 42, a midpoint of 24, and a mode of 13 for males and 6 for females. The ANOVA yielded no main effect for sex of participant (see Table 15). Means for males and females on the SPP were 14.32 and 14.06 respectively. The scores for SPP mean that most participants moderately disagreed with items such as, "I feel that I have to be perfect for my friends to like me". Therefore, it appears that most students, boys and girls equally, believe that other people apply some perfectionistic standards to them.

The ANOVA yielded a main effect for grade level, F (1, 2289) = 19.35, p < .001. Students in later grades (M = 14.78) reported more socially-prescribed perfectionism than students in earlier grades (M = 13.54). There was no significant sex by grade interaction.

Consequences of Body Image Discrepancy

In order to examine potential effects of sex and grade level of participants on psychological well-being and body attitudes and behaviours, a series of 2 (sex) x 2 (grade level) ANOVAs were performed. Separate ANOVAs were examined for each variable (i.e., psychological well-being, social avoidance, body salience, body self-consciousness,

size reduction behaviours, and size increase behaviours).

Psychological Well-Being (PWB).

The total score for PWB has a possible range of 10 to 166, a midpoint of 88, and a mode of 143 for males and 139 for females. Average well-being scores for these students, both male students (M = 124.74, SD = 22.25) and female students (M = 117.21, SD = 24.50) is best described as moderately to very high.

The ANOVA yielded a significant main effect for sex of participant, $F(1, 2289) = 62.04$, $p < .001$ (see Table 16). Male students (M = 124.81) reported greater overall psychological well-being than did female students (M = 117.17). In addition, there was a main effect for grade level, $F(1, 2289) = 36.97$, $p < .001$. Students in earlier grades (M = 124.15) reported greater overall psychological well-being than did students in later grades (M = 118.35). There was no significant sex by grade interaction.

Body Attitudes and Behaviours Scale for Children (BABS-C). The BABS-C scale consists of five factors: Social Avoidance (SA), Body Image Salience (BI-Sal), Body Image Self-consciousness (BI-Selfcons), Size Reduction Behaviours (SRB), and Size Increase Behaviours (SIB). These factors represent the participants' behavioural and emotional responses to body image discrepancy. In order to examine potential effects of sex and grade level of participant on each factor (i.e., avoidance, salience, self-consciousness, size reduction behaviours, and size increase behaviours), they were analyzed using a series of 2 (sex) x 2 (grade level) ANOVAs (see Table 17). See Table 18 for the means scores of the BABS-C subscales for male and female students in each body image group. Figures 6 through 10 illustrate the changes in the mean scores for each

subscale, separately, for male and female students across grades.

Social Avoidance (BI-AVOID). The Avoidance scale has a possible range of 7 to 49, a midpoint of 28, and a mode of 13 for males and 15 for females. The ANOVA for social avoidance yielded a main effect for sex of participant, $F(1, 2289) = 73.59, p < .001$. Female students (M = 19.67) reported engaging in more social avoidance than did male students (M = 16.82). In addition, there was a main effect for grade level, $F(1, 2289) = 19.73, p < .001$. Students in earlier grades (M = 17.46) reported engaging in less social avoidance than did students in later grades (M = 18.88).There was no significant sex by grade interaction (see Table 17).

Body Image Self-Consciousness (BI-Selfcons). The Body Image Self-Consciousness scale has a possible range of 3 to 21, a midpoint of 12, and a mode of 9 for males and 7 for females. The ANOVA on body image self-consciousness scores yielded a main effect for sex of participant, $F(1, 2289) = 49.50, p < .001$. Female students (M = 10.35) reported greater body image self-consciousness than did male students (M = 9.15). There was also a significant main effect for grade level, $F(1, 2289) = 28.83, p < .001$. Students in earlier grades (M = 9.26) reported less self-consciousness than did students in later grades (M = 10.16).There was no significant sex by grade interaction (see Table 17).

Body Image Salience (BI-Sal). The Body Image Salience scale has a possible range of 4 to 28, a midpoint of 16, and a mode of 19 for male students and 22 for female students. The ANOVA on the measure of salience of body image yielded a main effect for sex of student, $F(1, 2289) = 88.09, p < .001$. Female students (M = 18.58) reported greater salience of body image than did male students (M = 16.29). There was a

significant main effect for grade level, F (1, 2289) = 41.89, $p < .001$. Students in earlier grades (M =16.60) reported that they were less aware of their body image and thought less often about body image than did students in the later grades (M = 18.12).There was no significant sex by grade interaction (see Table 17).

Size Reduction Behaviours (SRB). The SRB scale has a possible range of 4 to 26, a midpoint of 15, and a mode of 4 for both male and female students. The ANOVA for size reduction behaviours yielded a significant main effect for sex of participant, F (1, 2289) = 229.23, $p < .001$. Female students (M = 12.35) were more likely to engage in size reduction behaviours than were male students (M = 8.91). There was also a significant main effect for grade level, F (1, 2289) = 29.69, $p < .001$. Students in later grades (M = 11.13) reported engaging in more size reduction behaviours than did students in earlier grades (M = 9.99). There was a significant sex by grade level interaction, F (1, 2289) = 41.62, $p < .001$. Size reduction behaviours increased across grade levels for female students (earlier grades M = 10.96 and later grades M = 13.61), but slightly decreased over time for male students from earlier grades (M = 9.03) to later grades (M = 8.80)(see Table 17).

Size Increase Behaviours (SIB). The SIB scale has a possible range of 4 to 26, a midpoint of 15, and a mode of 4 for both male and female students. The ANOVA on size increase behaviours yielded a main effect for sex of participant, F (1, 2289) = 318.26, $p < .001$. Male students (M = 9.81) reported engaging in more size increase behaviours than did female students (M = 6.28). There was a significant main effect for grade level, F (1, 2289) = 19.91, $p < .001$. Students in later grades (M = 8.52) reported engaging in more

size increase behaviours than did students in earlier grades (M = 7.58). There was also a significant interaction between sex and grade level, F (1, 2289) = 62.83, $p < .001$. Male students engaged in more size increase behaviours over time (earlier grades M = 8.53 and later grades M = 10.91) but female students engaged in slightly fewer of those behaviours from earlier grades (M = 6.63) to later grades (M = 5.97; see Table 17).

Effects of Group Membership on Body Change Behaviours.

The addition of body image group to the examination of group differences was deemed necessary in order to specify if the students' self-perceived body image group (i.e., too small, just right, or too big) influenced their endorsement of body size change strategies as predicted in hypothesis 7d. and 7e. A series of 2 (sex; male:female) x 2 (grade group; early grade: later grade) x 3 (body image group; too small: just right: too big) ANOVAs were performed for each variable (i.e., Size Reduction Behaviours and Size Increase Behaviours; see Table 19).

Group Effects on Size Reduction Behaviours.

Hypothesis 7d. Body image discrepancy was hypothesized to predict size reduction behaviours, including dieting, exercising, and eating less to reduce weight for students who reported that they felt 'too big'. This hypothesis was confirmed. This suggests that students who experience body image discrepancy, specifically feeling 'too big' report that they engage in size reduction behaviours. This is true for male and female students.

The ANOVA on size reduction behaviours yielded a main effect for sex of participant, F (1, 2289) = 43.44, $p < .001$. Female students (M = 10.29) reported engaging in more size reduction behaviours than did male students (M = 8.79). There was a

significant main effect for grade level, F (1, 2289) = 19.22, $p < .001$. Students in later grades (M = 10.04) reported engaging in more size reduction behaviours than did students in earlier grades (M = 9.04). There was a significant main effect for body image group, F (2, 2289) = 379.67, $p < .001$. Students in the 'too big' body image group (M = 13.26) reported engaging in significantly more size reduction behaviours than did students in the 'just right' body image group (M =7.84) and students in the 'too small' body image group (M = 7.52). The mean difference between the 'just right' body image group and the 'too small' body image group was not significant. There were no significant interactions (see Table 19). See Table 20 for the mean scores on size reduction behaviours separated by gender, grade group, and body image group.

Group Effects on Size Increase Behaviours.

Hypothesis 7e. Body image discrepancy was hypothesized to predict size increase behaviours (i.e., including eating more and exercising to increase weight) for students who reported that they felt 'too small'. This hypothesis was confirmed.

The ANOVA on size increase behaviours yielded a main effect for sex of participant, F (1, 2289) = 134.41, $p < .001$. Male students (M = 9.45) reported engaging in more size increase behaviours than did female students (M = 7.12). There was a significant main effect for grade level, F (1, 2289) = 17.20, $p < .001$. Students in later grades (M = 8.70) reported engaging in more size increase behaviours than did students in earlier grades (M = 7.87). There was a significant main effect for body image group, F (2, 2289) = 275.77, $p < .001$. Students in the 'too small' body image group (M = 11.08) reported engaging in significantly more size increase behaviours than did students in the 'just right' body

image group (M = 7.51) or the students in the 'too big' body image group (M = 6.27). Students in the 'just right' body image group (M = 7.51) reported engaging in significantly more size increase behaviours than did students in the 'too big' body image group (M = 6.27).

There was also a significant interaction between sex and grade level, $F(1, 2289) = 17.48, p < .001$. Male students engaged in more size increase behaviours over time (earlier grades M = 8.62 and later grades M = 10.29) but female students engaged in slightly fewer of those behaviours from earlier grades (M = 7.12) to later grades (M = 7.12)(see Table 21). There were no significant sex by body image group interaction or grade group by body image group interaction. There was also no significant sex by grade level by body image group interaction (see Table 19). See Table 21 for the mean scores on size increase behaviours separated by gender, grade group, and body image group.

Taken together, these results suggest that students who experience body image discrepancy endorse engaging in body change behaviours and attitudes that reflect the direction of this discrepancy. Estimates of effect size revealed a moderate effect for body image group ($\eta = .25$ for size reduction behaviours and $\eta = .20$ for size increase behaviours). If students feel 'too big', they are more likely to attempt to reduce their body size through behaviour change. If students feel 'too small', they are more likely to attempt to increase their body size through behaviour change. As a result, regardless of the directionality of the body image discrepancy, students who are feeling either 'too big' or 'too small' are vulnerable to engaging in behaviours to change their body size.

Hypothesis Testing with a Series of Multiple Regression Analyses

Predicting body image discrepancy.

The following section will present the test of hypotheses 3 through 5 using a series of hierarchical linear regression analyses. For each analysis, at Step 1, the predictor variable entered was the demographic variable (Grade). Student grade was entered as a predictor because prior research has indicated that there are changes in these variables as the students age. As a result, grade is entered as a continuous variable, from grade 5 through grade 12. At Step 2, multiple sociocultural (Media Exposure Scale, Sociocultural Awareness, Sociocultural Internalization, Body Focussed Criticism total score) and personal (Self-Oriented Perfectionism, Socially-Prescribed Perfectionism) predictor variables were entered. Sociocultural variables were entered in Step 2 in order to determine if they predicted body image discrepancy once potential differences due to grade were accounted for (Tabachnick & Fidell, 2001). The criterion variable was body image discrepancy (BIABS). Separate regression analyses were completed for male students and females students in order to examine the nature of the predictors for each gender. The total score of the Body Focussed Criticism scale was used for all subsequent regression analyses due to the attenuated range of responses.

For male students (see Table 22), the demographic variable (i.e., grade) entered in Step 1 predicted body image discrepancy, $R^2 = .010$, $F\,(1,1180) = 12.35$, $p < .001$. This finding indicated that, for male students, increasing grade level ($\beta = .102$, $p < .001$) predicted more severe body image discrepancy. In Step 2, R^2 significantly increased from .010 to .286, $F\,(4,1176) = 114.50$, $p < .001$, with the addition of body focussed criticism

($\beta = .287, p < .001$), internalization of sociocultural standard of body image ($\beta = .229, p < .001$), and socially-prescribed perfectionism ($\beta = .223, p < .001$). Specifically, these findings suggest that the more body focussed criticism experienced, the greater the internalization of society's ideal body image for one's own standards, and the greater one's belief that significant others set exact standards for oneself, the more body image discrepancy is experienced by male students, over and above differences in grade level. Overall, the combined independent variables predicted 28.6% of the variance in body image discrepancy scores reported by male students.

For male students, hypothesis 3 predicted that the sociocultural factors (i.e., media use, acceptance of sociocultural messages, internalization of sociocultural messages for personal standards) would significantly predict students' body image discrepancy. This hypothesis was confirmed for internalization of society's standards of attractiveness (SA-Intern). This hypothesis was confirmed for body focussed criticism (i.e., BCS) for male students only. This hypothesis was not confirmed for media use (i.e., MES) nor awareness of sociocultural messages of ideal body image (i.e., SA-Aware), for male students.

For male students, hypothesis 4 predicted that students who experience more body focussed criticism would report more severe body image discrepancy. This hypothesis was confirmed for male students only. Thus it appears that for male students, body focussed criticism from significant others is associated with more severe body image discrepancy. Taken together, these results suggest that even though the occurrence of body focussed criticism was infrequent, it had a significant effect for male students.

For male students, hypothesis 5 predicted that students who have more perfectionistic tendencies, both the tendency to set exact standards for oneself (i.e., Self-Oriented Perfectionism) and the belief that significant others set exact standards for oneself which must be met (i.e., Socially-Prescribed Perfectionism), would report significantly greater body image discrepancy. For male students, this hypothesis was confirmed for socially-prescribed perfectionism only. That is, setting perfectionistic standards for their own body image is not negatively associated with body image discrepancy. It is the perfectionistic standards of others that the student attempts to meet which predict body image discrepancy.

For female students (see Table 22), the demographic variable, grade of student, entered in Step 1 predicted body image discrepancy, $R^2 = .052$, $F\,(1,1123) = 62.07$, $p < .001$. This finding indicated that, female students, increasing grade level ($\beta = .229$, $p < .001$) predicted more severe body image discrepancy. In Step 2, R^2 significantly increased from .052 to .324, $F\,(3,1121) = 167.30$, $p < .001$, with the addition of body criticism ($\beta = .072$, $p < .01$), awareness ($\beta = .130$, $p < .001$) and internalization of sociocultural standards of the ideal body image ($\beta = .323$, $p < .001$), and socially-prescribed perfectionism ($\beta = .162$, $p < .001$). Specifically, these findings suggest that the greater that female students are aware of and internalize society's ideal body image for their own standards, the more body focussed criticism, and the greater their belief that significant others set exact standards for themselves, the more body image discrepancy is experienced by female students, over and above differences in grade level. Overall, the combined independent variables predicted 32.4% of the variance in body image

discrepancy scores reported by female students.

For female students, hypothesis 3 predicted that the sociocultural factors (i.e., media use, awareness of sociocultural messages, internalization of sociocultural messages for personal standards) would significantly predict students' body image discrepancy. This hypothesis was confirmed for awareness of sociocultural messages of ideal body image (i.e., SA-Aware), internalization of society's standards of attractiveness (SA-Intern) for female students. This hypothesis was not confirmed for media use (i.e., MES).

For female students, hypothesis 4 predicted that male and female students who experience more body focussed criticism would report more severe body image discrepancy. This hypothesis was confirmed for female students. These results suggest that body focussed criticism from significant others is associated with more severe body image discrepancy for female students.

Hypothesis 5 predicted that students who have more perfectionistic tendencies, both the tendency to set exact standards for oneself (i.e., Self-Oriented Perfectionism) and the belief that significant others set exact standards for oneself which must be met (i.e., Socially-Prescribed Perfectionism), would report significantly greater body image discrepancy. For female students, this hypothesis was confirmed for socially-prescribed perfectionism only. For female students, setting perfectionistic standards for their own body image is not negatively associated with body image discrepancy. It is the perfectionistic standards of others that the student attempts to meet which predicts body image discrepancy.

Predicting psychological well-being.

Hypothesis 6 was tested using a hierarchical multiple regression analysis. The demographic variable (i.e., grade) was be entered in Step 1 and all sociocultural (i.e., media exposure, awareness of sociocultural standards, internalization of sociocultural standards, body focussed criticism) and personal variables (i.e., self-oriented perfectionism and socially-prescribed perfectionism) was be entered in Step 2, with body image discrepancy entered in Step 3. Body image discrepancy was entered in the last step in order to determine if it has an impact on psychological well-being over and above the effects of all other variables entered into the model. Separate regression analyses were completed for male students and females students in order to examine the nature of the predictors for each gender. Student grade was entered as a predictor because prior research has indicated that there are changes in these variables as the students age.

For male students (see Table 23), the demographic variable (i.e., grade) entered in Step 1 predicted psychological well-being, $R^2 = .009$, $F(1,1179) = 10.56$, $p < .01$. However, this was a small effect. This finding indicated that for male students, earlier grades ($\beta = .-.094$, $p < .01$) predicted greater psychological well-being. In Step 2, R^2 significantly increased from .009 to .470, $F(3,1177) = 347.34$, $p < .001$, with the addition of socially-prescribed perfectionism ($\beta = -.596$, $p < .001$) and body focussed criticism ($\beta = -.196$, $p < .001$). Specifically, these findings suggest that the more body focussed criticism experienced and the greater the belief that significant others set exact standards, the greater the negative effect on psychological well-being, over and above differences in grade level.

In Step 3, R^2 significantly increased from .470 to .503, F (4,1176) = 297.303, $p <$ .001, indicating that male students' body image discrepancy perceptions significantly predicted decreased psychological well-being. When body image discrepancy was added to the regression model in Step 3, socially-prescribed perfectionism (β = -.539, $p <$ .001) and body focussed criticism (β = -.131, $p <$ .001) remained significant predictors of psychological well-being. As predicted for males students, body image discrepancy (β = -.208, $p <$ .001) is a significant predictor of psychological well-being, over and above other sociocultural and personal variables included in the regression analysis. Overall, the combined independent variables predicted 50.3% of the variance in psychological well-being scores reported by male students.

Hypothesis 6 predicted that students who reported significantly greater body image discrepancy, as indicated by the Body Image Perceptions Scale for Children, would report significantly lower levels of Psychological Well-Being. This hypothesis was confirmed for male students. This suggests that greater body image discrepancy predicts reduced psychological well-being for male students across all grades.

For female students (see Table 23), the demographic variable (i.e., grade) entered in Step 1 predicted psychological well-being, R^2 = .028, F (1,1123) = 35.592, $p <$.001. This finding indicated that for female students, earlier grades (β = -.168, $p <$ .01) predicted greater psychological well-being. In Step 2, R^2 significantly increased from .028 to .544, F (5,1119) = 266.621, $p <$ .001, with the addition of socially-prescribed perfectionism (β = -.534, $p <$ .001), body focussed criticism (β = -.114, $p <$ .001), internalization (β = -.150, $p <$ .001) and awareness (β = -.111, $p <$ .001) of sociocultural standards of the ideal

body image. These findings suggest that the specified variables have a combined negative effect on psychological well-being, over and above differences in grade level.

In Step 3, R^2 significantly increased from .544 to .581, F (6,1118) = 258.638, $p <$ .001, indicating that female students' body image discrepancy perceptions significantly predicted decreased psychological well-being. When body image discrepancy (β = -.236, $p <$ .001) was added to the regression model in Step 3, socially-prescribed perfectionism (β = -.496, $p <$ .001) and body focussed criticism perceptions (β = -.097, $p <$ .001) remained significant predictors of psychological well-being. Both internalization (β = -.074, $p <$ .01) and awareness (β = -.081, $p <$ .01) of sociocultural standards of the ideal body image reamined significant predictors of psychological well-being; however, this was a small effect. As was predicted, body image discrepancy is a significant predictor of psychological well-being in female students, over and above other sociocultural and personal variables included in the regression analysis. Overall, the combined independent variables predicted 58.1% of the variance in psychological well-being scores reported.

Hypothesis 6 predicted that students who reported significantly greater body image discrepancy, as indicated by the Body Image Perceptions Scale for Children, would report significantly lower levels of Psychological Well-Being. This hypothesis was confirmed for female students. Body image discrepancy was found to significantly, negatively predict psychological well-being for female students.

Predicting body image attitudes and behaviours.

The following section presents the tests of hypothesis 7a. through 7c. using a series of hierarchical multiple regression analyses. The demographic variable (i.e., grade) was

entered in Step 1 and all sociocultural (i.e., media exposure, awareness of sociocultural standards, internalization of sociocultural standards, body focussed criticism) and personal variables (i.e., self-oriented perfectionism and socially-prescribed perfectionism) were entered in Step 2, with body image discrepancy entered in Step 3. Body image discrepancy was entered in the last step in order to determine if it has an impact on body image attitudes and behaviours over and above the effects of all other variables entered into the model. Student grade was entered as a predictor because prior research has indicated that there are changes in these variables as the students age. Separate regression analyses were completed for male students and females students in order to examine the nature of the predictors for each gender. A series of regression analyses were conducted with the three BABS-C subscales of avoidance, salience, and selfconsciousness entered separately as the criterion variables.

Hypothesis 7a. Body image discrepancy was hypothesized to predict avoidance of social situations in which they perceive other people to be evaluating their body shape and size. This hypothesis was confirmed for both male and female students.

For Body Image Social Avoidance (BI-Avoid) for male students (see Table 24), the demographic variable (i.e., grade) did not satisfy the entry criteria for the regression equation (i.e., $p < .01$), as a result grade did not enter the equation. This finding indicated that male students reported similar levels of avoiding social situations in which they perceive other people to be evaluating their body shape and size, regardless of their grade. In Step 2, the sociocultural and personal variables predicted social avoidance for male students, $R^2 = .230$, $F\,(5,1176) = 116.904$, $p < .001$, with the addition of socially-

prescribed perfectionism ($\beta = .328, p < .001$), internalization of sociocultural standards ($\beta = .160, p < .001$), and body focussed criticism ($\beta = .155, p < .001$). Specifically, these findings suggest that sociocultural factors predict male students avoidance of social situations (i.e., greater the belief that significant others set exact standards, the greater internalization of sociocultural standards of the ideal body image, and the more body focussed criticism).

In Step 3, R^2 significantly increased from .230 to .352, $F(6,1175) = 159.657, p < .001$, indicating that male students' body image discrepancy perceptions significantly predicted greater social avoidance. When body image discrepancy was added to the regression model in Step 3, socially-prescribed perfectionism ($\beta = .236, p < .001$) and internalization of sociocultural standards ($\beta = .066, p < .01$) remained significant predictors of social avoidance. As predicted for males students, body image discrepancy is a significant predictor of social avoidance, over and above the sociocultural and personal variables included in the regression analysis. Overall, the combined independent variables predicted 35.2% of the variance in social avoidance scores reported by male students.

For female students (see Table 24), the demographic variable (i.e., grade) entered in Step 1 predicted social avoidance, $R^2 = .021, F(1,1123) = 24.638, p < .001$. This finding indicated that for female students, increasing grade level ($\beta = .147, p < .001$) predicted social avoidance. In Step 2, R^2 significantly increased from .021 to .295, $F(2,1122) = 117.411, p < .001$, with the addition of socially-prescribed perfectionism ($\beta = .279, p < .001$), internalization ($\beta = .223, p < .001$) and awareness ($\beta = .164, p < .001$) of

sociocultural standards of the ideal body image. These findings suggest that sociocultural standards of attractiveness set by others, as communicated by perceived messages from significant others or by media representations of ideal body images, have a combined effect of increasing female students' avoidance of social situations, over and above differences in grade level.

In Step 3, R^2 significantly increased from .295 to .440, F (5,1119) = 176.139, $p <$ .001, indicating that female students' body image discrepancy perceptions significantly predicted social avoidance. When body image discrepancy was added to the regression model in Step 3, socially-prescribed perfectionism ($\beta = .193, p < .001$) and awareness of sociocultural standards ($\beta = .099, p < .01$) remained significant predictors of social avoidance. Overall, the combined independent variables (i.e., socially-prescribed perfectionism, body image discrepancy, and awareness of sociocultural standards) predicted 44% of the variance in social avoidance scores reported by female students. As predicted, for both males and females, body image discrepancy is a significant predictor of social avoidance, over and above the other variables included in the regression analysis.

Hypothesis 7b. Body image discrepancy was hypothesized to predict body image self-consciousness, including both uncomfortable and embarrassed feelings about one's body. This hypothesis was confirmed for both male and female students, body image discrepancy predicted self-consciousness.

For male students, the demographic variable (i.e., grade) entered in Step 1 predicted self-consciousness, $R^2 = .009$, F (1,1179) = 10.215, $p < .01$. This finding indicated that

for male students, increasing grade level ($\beta = .093, p < .01$) predicted increased self-consciousness about their body image; however, this was a small effect.. In Step 2, R^2 significantly increased from .009 to .165, F (3,1177) = 74.917, $p < .001$, with the addition of socially-prescribed perfectionism ($\beta = .391, p < .001$) and self-oriented perfectionism ($\beta = .145, p < .001$). For male students, greater perfectionistic tendencies, including awareness of ideal body image standards set by others (i.e., socially-prescribed perfectionism) and setting exact standards for oneself (i.e., self-oriented perfectionism) significantly predicted body image self-consciousness, over and above differences in grade level.

In Step 3, R^2 significantly increased from .165 to .294, F (4,1176) = 120.855, $p <$ .001, indicating that male students' body image discrepancy perceptions significantly predicted self-consciousness. When body image discrepancy ($\beta = .392, p < .001$) was added to the regression model in Step 3, socially-prescribed perfectionism ($\beta = .242, p <$ .001) and self-oriented perfectionism ($\beta = .131, p < .001$) remained significant predictors of self-consciousness. As predicted for males students, body image discrepancy is a significant predictor of self-consciousness, over and above the sociocultural and personal variables included in the regression analysis. Overall, the combined independent variables predicted 29.4% of the variance in self-consciousness reported by male students.

For female students (see Table 25), the demographic variable (i.e., grade) entered in Step 1 predicted self-consciousness, $R^2 = .025$, F (1,1123) = 28.625, $p <.001$. This finding indicated that for female students, increasing grade level ($\beta = .158, p < .001$) predicted self-consciousness. In Step 2, R^2 significantly increased from .025 to .255, F (6,1118) =

63.897, $p < .001$, with the addition of socially-prescribed perfectionism ($\beta = .272, p < .001$), self-oriented perfectionism ($\beta = .078, p < .01$), awareness ($\beta = .150, p < .001$) and internalization ($\beta = .229, p < .001$) of sociocultural standards of the ideal body image, and exposure to video media ($\beta = .083, p < .01$). These findings suggest that sociocultural standards of attractiveness set by others, as communicated by perceived messages from significant others and by media representations of ideal body images, and one's perfectionistic tendencies have a combined effect of increasing female students' self-conscious feelings about their body image, over and above differences in grade level.

In Step 3, R^2 significantly increased from .255 to .413, $F(7,1117) = 112.153, p < .001$, indicating that female students' body image discrepancy perceptions significantly predicted self-consciousness. When body image discrepancy was added to the regression model in Step 3, socially-prescribed perfectionism ($\beta = .178, p < .001$) and media exposure ($\beta = .075, p < .01$) remained significant predictors of self-consciousness. As predicted, for both males and females, body image discrepancy is a significant predictor of self-consciousness, over and above the other variables included in the regression analysis. Overall, the combined independent variables (i.e., socially-prescribed perfectionism, media exposure, and body image discrepancy) predicted 41.3% of the variance in self-consciousness scores reported by female students.

Hypothesis 7c. Body image discrepancy was hypothesized to predict body image salience (i.e., thinking about and aware of one's body image). This hypothesis was partially confirmed in the current research. Body image did not contribute to body image salience for females and had only a small effect for males, once the other sociocultural

and personal factors were entered into the regression equation (see Table 26).

For body image salience (BI-Salience) for male students (see Table 26), the demographic variable (i.e., grade) entered in Step 1 predicted body image salience , $R^2 = .006$, $F(1,1179) = 7.407$, $p < .01$. This finding indicated that for male students, increasing grade level ($\beta = .079$, $p < .01$) predicted body image salience; however, this was a small effect. In Step 2, R^2 significantly increased from .006 to .308, $F(5,1175) = 104.713$, $p < .001$, with the addition of internalization ($\beta = .382$, $p < .001$) and awareness ($\beta = .158$, $p < .001$) of sociocultural standards; self-oriented perfectionism ($\beta = .163$, $p < .001$); and amount of media exposure ($\beta = .066$, $p < .01$). Taken together, these findings suggest that male students' unrealistic standards of body image, either set by themselves or adopted from the media, predicted male students' thoughts and awareness of their body image (i.e., body image salience), over and above differences in grade level.

In Step 3, R^2 significantly changed from .308 to .313, $F(6,1174) = 89.162$, $p < .001$, indicating that male students' body image discrepancy perceptions ($\beta = .075$, $p < .01$) significantly predicted body image salience, over and above the other variables previously entered in the regression; however, this is only a small effect. When body image discrepancy was entered in Step 3, self-oriented perfectionism ($\beta = .167$, $p < .001$), awareness ($\beta = .150$, $p < .001$) and internalization ($\beta = .360$, $p < .001$) of ideal standards remained significant predictors of body image salience. Overall, these combined independent variables predicted 31.3% of the variance in body image salience reported by male students.

For female students (see Table 26), the demographic variable (i.e., grade) entered in

Step 1 predicted body image salience (BI-Salience), $R^2 = .053$, $F(1,1123) = 62.331$, $p < .001$. This finding indicated that increasing grade level ($\beta = .229$, $p < .001$) predicted body image salience. In Step 2, R^2 significantly increased from .053 to .501, $F(4,1120) = 280.991$, $p < .001$, with the addition of internalization ($\beta = .604$, $p < .001$) and awareness ($\beta = .099$, $p < .01$) of sociocultural standards. Self-oriented perfectionism ($\beta = .081$, *n.s.*) did not significantly predict body image salience. Similar to male students, these findings suggest that female students' unrealistic standards of body image, as adopted from the media, predicted increased thoughts and awareness of their body image (i.e., body image salience), over and above differences in grade level. However, when these sociocultural standards of body image entered the equation, the effects of grade disappeared ($\beta = .016$, n.s.). In Step 3,body image discrepancy perceptions did not enter into the regression equation, indicating that female students' body image discrepancy perceptions did not significantly predict body image salience over and above the other variables. Overall, these combined independent variables predicted 50.1% of the variance in body image salience reported by female students.

Discussion

Historically, researchers have focussed on the drive for thinness experienced by many women and adolescent females. This research has been motivated by identifying the factors associated with the development of body image discrepancy and to design education programs to counteract the development of body image discrepancy and its emotional consequences. During the past 5 years, researchers have started to examine the development of muscle-enhancing behaviours primarily exhibited by men and adolescent

males. Subsequently, researchers have developed measures and, subsequently, identified the bidirectional nature of body image (e.g., Buchanan, 1996; McCabe & Ricciardelli, 2005; McCreary et al., 2004). The current research develops and provides evidence for measures of body image (i.e., BIPS-C, BABS-C, SAAS-C) and for the bidirectional nature of body image discrepancy. Specifically, the goals of the current study were as follows: (1) to develop a measure of body image discrepancy designed to assess both male and female body image experiences; (2) to document the prevalence of body image discrepancy in school-aged children and adolescents in Manitoba; and (3) to examine relationships among sociocultural and individual influences and body image discrepancy, psychological well-being, and body size change strategies.

Scale Modification

In order to accomplish these goals, a number of scales were modified for use with a student population (i.e., BIPS-C, RSES-C, SAAS-C, BABS-C). The current research confirms that these scale modifications were appropriate with adequate internal consistency and ecological validity demonstrated with high student completion rates. In addition, observations by the experimenter indicated that the items were understandable and meaningful for these participants. They asked few questions about the meaning of items and instances of missing data were rare. Finally, the BIPS-C scale was easy and quick to administer, which makes it efficient for conducting research with large numbers of students in grade school. Taken together, these findings demonstrated that the measures employed in this study yielded reliable and meaningful information about students' body images and their related experiences.

A number of hypotheses were advanced about body images and their correlates. The following discussion will articulate the findings for each hypothesis and then integrate the findings of the current research into the published literature. Moreover, an attempt is made to apply the findings to everyday living for students, parents, and educators.

Body Image Self-Perceptions

In the current study, and consistent with the first hypothesis (i.e., Hypothesis 1a.), observation of discrepancy scores shows that majority of female students experience body image discrepancy as feeling too big. This supports the findings of previous research with female student populations (e.g., Buchanan, 1996; for a comprehensive review, see Thompson et al., 1999). For male students, slightly more male students see themselves as too big as compared to too small. The current study elucidates the male experience of body image discrepancy as bimodal and bidirectional. This distribution is illustrated in Figure 1, which shows that almost equal numbers of male students reported feeling 'too big' as 'too small' with slightly more male students reporting that they feel too big.

Concurrent with the present study, a body of research investigating negative body image and body change strategies has also addressed the measurement of body image for males (e.g., Cohane & Pope, 2001; Kostanski et al., 2004; McCreary & Sasse, 2002; Ricciardelli & McCabe, 2003). It is now generally accepted in the body image literature that, for males, body image discrepancy is bimodal and includes a mesomorphic ideal (Cafri et al., 2005).

Hypothesis 1b. predicted that male and female students would report experiencing significant body image discrepancy. The current study demonstrates an overall high rate

of occurrence of body image discrepancy in both male and female students. This finding replicates the findings of previous research using the BIPS-C with University students (Buchanan, 1996) and University alumni ranging in age from 30 to 69 years (Read, 1999). This finding is consistent with previous research (e.g., Jones, 2004; Kostanski & Gullone, 1998)

The second part to the first hypothesis (i.e., hypothesis 1b.) also predicted that male and female students would report similar overall levels of body image discrepancy, as measured by the absolute discrepancy score (BIABS) of the Body Image Perceptions Scale for Children (BIPS-C). This hypothesis was not confirmed by either the the BIPS-C linear scale score (BILIN) nor the BIPS-C absolute scale score (BIABS). The results demonstrated that sex differences in the magnitude of body image discrepancy were present among students in Grades 5 to 12. In this research, female students reported experiencing significantly greater levels of body image discrepancy than were reported by male students. These differences are consistent with a substantial literature that women experience more body image problems (e.g., Thompson et al., 1999; Cash & Grosso, 2005). Possible explanations for these findings are examined during the discussion of subsequent hypotheses. However, the majority of female and male students across Grades 5 to 12 reported feeling significant body image discrepancy.

The second hypothesis predicted that older students would report significantly higher levels of body image discrepancy than the younger students. This hypothesis was confirmed. Upon examination of the developmental trends, there were two distinct findings. First, there was a significant increase in the number of male and female students

experiencing body image discrepancy across grades. Second, the direction of this increase was different for male and female students. Over time, there was a significant increase in the number of males who reported feeling too small. By the time they reached grade 12, 47% of the male students felt that their bodies were too small, while 31% felt that their bodies were too big. This result is similar to that obtained by Buchanan (1996) with 83% of male University students reporting body image discrepancies, with 56% of them believing that their bodies were too small.

Over time, there was an increasing trend for female students to feel that their bodies were too big and a corresponding decrease in the number feeling that their bodies were too small. By the time they reached Grade 12, 88% of female students reported a body image discrepancy, with a 3:1 ratio of reporting that they feel too big than too small. This is very similar to that obtained by Buchanan (1996) with 84% of female University students reporting body image discrepancies, with 77% of them believing that their bodies were too big.

It is notable, and somewhat disturbing, that body image discrepancy is already reported by male (61.2%) and female (61.3%) students in Grade 5. This finding supports previous research that demonstrates that many girls in Grades 4 and 5 already report body dissatisfaction (e.g., Smolak, 2004). One might have expected that these discrepancies would not have been present at this early age, but might have developed somewhere between Grades 5 and 12. One might well conclude from the current study that the appearance of body image discrepancies occurs before students reach Grade 5.

Students in earlier grades were not included in this study for two reasons. First, the

scales would have had to be altered significantly to accommodate lower levels of reading comprehension. Those scales might not then have been suitable for use with high school students. Second, the author was concerned that completing the BIPS-C might actually trigger body image concerns for young students, where those concerns hadn't existed before. In fact, some parents expressed this concern when considering whether or not to consent to their child's participation in this study. However, the current study suggests that body image concerns start before Grade 5. Ricciardelli and McCabe's (2001a) review of the literature found that body image concerns are repeatedly demonstrated in 8 year-old children (both boys and girls). That, in turn, suggests that parents and teachers ought to be aware that very young students are already dealing with body image concerns.

Inherent in the BIPS-C scale is an internal comparison between the individual's real and ideal body image. Part of this comparison comes from the perception of one's own body and part comes from a "standard" for the ideal body. One purpose of the current study was to identify potential sources of these ideal standards. Of particular interest were aspects of students' social environments including family, peers, and the media; and aspects of students' personalities, specifically perfectionism. This is not to be taken as an exhaustive assessment of potential antecedents, but merely as a representation of the authors' primary interests based on testing the social-cognitive theory.

As a result of the bimodal distribution of male students' body image discrepancy ratings using the linear score of the BIPS-C, the associations between male students' body image discrepancies and antecedents or consequences (all linear measures) would be U-shaped or quadratic. Those associations would be missed or underestimated with

measures of linear association. The body image absolute discrepancy score (i.e., BIABS) basically converts the U-shaped discrepancy scores into a linear measure. Thus, use of the absolute discrepancy allows for the accurate assessment of association between the linear measures of antecedents, consequences, and body image discrepancies.

The third hypothesis predicted that students who reported more exposure to the mass media, greater acceptance of the body image messages, and greater internalization of these standards would report significantly greater levels of body image discrepancy. This hypothesis was partially confirmed. The following is a discussion of each of these three sociocultural variables and the contribution each experience makes to the development of body image discrepancy.

Media Exposure Scale

Television is a major source of information about the world for adults and children alike. The media quickly and broadly conveys prevalent social attitudes of the culture and time, also called social representations (for a comprehensive review, see Myers & Spencer, 2004). Social attitudes also serve a social identity function that permits individuals to express their identity and values, or the values of the reference groups to which they would like to belong. The media tells us what we should look like and, in doing so, influences our notions of the "ideal" body. If this ideal is unrealistic, comparison to it is bound to yield a discrepancy.

A possible explanation for the difference in body image discrepancy experiences of male and female students, as reported in hypothesis 1a, is that female students may be influenced to a greater extent by a more widely communicated and more widely accepted

ideal body image for female students than for male students. For instance, a young girl may watch a television show talking about Lindsay Lohane's recent weight loss or purchase a magazine with her picture on the cover and make comments to herself about how much attention she is receiving now that she is very thin (i.e., SA-Accept). Furthermore, female students may internalize the ideal body image (i.e., SA-Internalize) to a greater extent than do male students. To extrapolate on the previous example, the same young girl is now reading the magazine article about Lindsay Lohane's weight loss and decides that she is much larger than Lindsay Lohane and is, in fact, "too large". Subsequently, she decides to diet so she too can look like Lindsay Lohane after her drastic weight loss.

Previous research assessed the number of weight loss advertisements or the portrayal of thinness in male and female magazines and on television (e.g., Anderson & DiDomenico, 1992). This research focussed on thinness and failed to consider magazine articles pertaining to muscle building concerns, thus overlooking the male body image experience. Until recently, researchers continued to assert that females feel more media pressure to be attractive than do males, stating that the media places more emphasis on female than male attractiveness.

More recently, researchers have examined the increasingly muscular presentation of the male physique in the mass media (e.g., McCreary & Sasse, 2000; Morry & Staska, 2001; Murnen, Smolak, Mills, & Good, 2003). It has been shown that more and more frequently, young men are reporting their desire to gain weight and, specifically, to attain a more muscular build. For example, McCabe and Ricciardelli (2003a; 2003c) separated

the desire for a muscular build into two dimensions: the desire to gain body size and the desire to increase muscle tone. As previously mentioned, the current study did not include a separate index of muscularity. It was the decision of the author to focus on the measurement of body image discrepancy as defined by the individual on the basis of internal body size ideal standards as compared to their self-perceived current body size.

In hypothesis 3, it was predicted that students who reported greater overall television-media use would report greater levels of body image discrepancy; however, this was not supported by the current research. First, male students reported watching more television than did female students. On average, male students reported watching 5.5 hours and female students reported 4.6 hours of television. Second, students in early grades reported watching more television than students in later grades. On average, students in Grades 5 to 9 watched 5.4 hours compared to students in Grades 10 to 12 that watched 4.8 hours. However, simple exposure in time of television watching did not predict body image discrepancy in the regression equations for either male or female students. One must not only be exposed to the messages and images conveyed by the media, one must be aware of those messages and must accept those standards as appropriate points of comparison when evaluating one's body.

Sociocultural Attitudes

Recent research has focussed on the process by which messages communicated by the mass media are accepted and internalized by the individual, thereby influencing his or her attitudes about body image (e.g., Sands & Wardle, 2003; Smolak, Levine, & Thompson, 2001). Two sociocultural factors related to the body image experiences of

students have been hypothesized and tested: (1) awareness and (2) internalization of media messages of body image.

Awareness.

The third hypothesis predicted that students who reported greater awareness of sociocultural messages would report greater levels of body image discrepancy. This hypothesis was partially confirmed by the current study. Awareness of sociocultural standards of appearance and social pressures was a predictor of body image disturbance for female students only and not for male students.

This factor measured the participants' degree of awareness of society's ideal body image as portrayed by the media. Male and female students scored near the midpoint of the awareness scale, reporting neither strong agreement nor strong disagreement with the cultural messages about body image. These students were moderately aware of society's standards of physical attractiveness. However, male students reported more awareness of these messages than did female students. The finding that male students watch more television may account for male students' greater awareness of body image standards and messages communicated in the television media. However, awareness of body image messages in the media did not predict body image discrepancy in the regression equation for male students. This suggests that male students' awareness of body image messages in the media does not affect how they feel about their bodies. Male students may not be applying these standards of attractiveness to themselves. The process required to impact self-perception may take more than simply watching television and seeing the images of successful, attractive, muscular males.

Examination of the developmental trends reveals that students in later grades reported greater awareness of these cultural messages in the television media, despite later grade students watching less television than do early grade students. These findings support the notion that adolescents (the later grade students) are interested in and are paying attention to these mass media messages about appearance and body image.

Internalization.

The third hypothesis predicted that students who reported greater internalization of sociocultural messages would report greater levels of body image discrepancy. This hypothesis was confirmed. Internalization of these sociocultural standards of appearance as one's own ideal body image predicted greater body image disturbance for both male and female students. Specifically, the acceptance of an unrealistic ideal body image heightens one's body image discrepancy, as the contrast between the real and ideal is exacerbated.

The internalization subscale measured the degree to which participants accepted and internalized society's portrayal of an ideal body image as their own standards of appearance (ideal body image). Male and female students scored near the midpoint of the internalization scale, reporting neither strong agreement nor strong disagreement with these internal standards of the ideal body image as conveyed by messages and images in the media. Female students reported greater acceptance and internalization of these messages as their own standards of attractiveness than did male students. Most male students disagreed with these statements, whereas most female students slightly agreed with the statements. In addition, students in Grades 10 to 12 reported greater

internalization of the cultural standards of the ideal body image than did students in Grades 5 to 9. These findings support the notion that most students, to some degree, accept the media's portrayal of the ideal body image as their own ideal. Furthermore, these findings support the developmental trend that adolescents (students in Grades 10 to 12) accept and internalize society's appearance standards to a greater degree than do younger students (students in Grades 5 to 9). Again, adolescents are paying attention to these mass media messages about appearance and body image and accepting these images as their own ideal standards. The findings of the current study with Canadian students parallels the results found for American and Australian students (e.g, Ricciardelli & McCabe 2001b; 2003a; Tiggemann & Pickering, 1996; Thompson et al., 1999). A common sociocultural influence is the visual mass media (i.e., television, music videos, and movies), in fact, Canadians watch more American television shows and movies, than Canadian television shows and movies. We share a common source of ideal body image representations, so we share a common influence in the development of body image discrepancy for students and adults alike.

This finding for female students supports the findings of previous research (e.g., Calogero, David, & Thompson, 2004). The current study also furthers our understanding of the male body image experience. That is, males also internalize the media's portrayal of the ideal male body image, and when they do so, they experience body image discrepancies. McCabe and Ricciardelli (2003) confirm the finding that perceived sociocultural pressure effects body image concerns for adolescent boys and girls. The current study indicates that awareness and internalization of sociocultural standards of an

ideal body image predict the development of body image discrepancy in female students; but it is the process of internalizing these standards that predicts body image discrepancy in male students.

Body Focussed Criticism

The fourth hypothesis predicted that students who reported more criticism of their bodies, by family and peers, would report greater body image discrepancies. For both male and female students, there was a significant association between the total amount of body focussed criticism reported and body image discrepancy.

Part of the social environment of a person consists of parents, siblings, and peers. These reflect numerous channels of influence, all impacting the child at the same time, and affecting the development of the child's body image and self-concept. Moreover, as the child becomes an adolescent, the values of peer groups become more influential as social attitudes are no longer filtered by the parents. Social and developmental psychology has documented the impact of this social environment on a child's developing attitudes and behaviours.

It is now generally accepted that social-developmental factors serve as etiological pressures in the formation of body image disturbance and its associated pathology. These factors include weight status and a history of teasing or criticism about physical appearance (e.g., Barker & Galambos, 2003; Thompson et al., 1999). This negative verbal commentary has had many labels including ribbing, joking, teasing, and ostracizing. The current study used the term body focussed criticism to more accurately reflect the subject and to highlight the negative emotional message of these comments.

Overall, the rates of criticism reported by the students in the current research were very low. It is difficult to estimate the effects of criticism on body image discrepancy because of the attenuated range of scores. The source of criticism (family vs. peers) was not evaluated because of this limitation; however, the scores were combined into an overall rate of body focussed criticism and the hypothesis was tested.

This finding does not confirm previous research for females (e.g., Guiney & Furlong, 2000). However, this finding must be interpreted with caution due to the attenuated range of body focussed criticism reported by both male and female students in the current study. It also furthers the understanding of male body image experiences (e.g., McCabe, Ricciardelli, & Holt, 2005; Vessey, Duffy, O'Sullivan, & Swanson, 2003; Vincent & McCabe, 2000). Watson (2000) reported that society values a larger, muscular body shape for males, and that over the past 10 years this message is more frequently communicated by the media, peers, and family. The current research supports the conclusion that males are vulnerable to appearance related criticism and associated negative emotional consequences for psychological well-being.

Perfectionism.

The fifth hypothesis predicted that students who reported higher levels of perfectionistic standards, both more self-oriented perfectionism and more socially-prescribed perfectionism, would report significantly greater levels of body image discrepancy. The current research examined how perfectionism predict body image discrepancy for males and females.

Body image has two components; real and ideal body images. The real body image is

composed of the thoughts and feelings experienced with how you think you look. The ideal body image is composed of the thoughts and feelings experienced with how you think you should look. Previous research showed that perfectionist standards can lead the individual to adopt an unrealistic ideal body image and to the individual being disturbed when a discrepancy occurs (e.g., McGee et al., 2005).

Self-Oriented Perfectionism (SOP).

Self-oriented perfectionism is the tendency to set exact standards for oneself, to evaluate oneself harshly, and to incorporate a discrepancy between actual self and ideal self. It was hypothesized that students possessing greater levels of self-oriented perfectionism would report greater body image discrepancies. This hypothesis was not supported. Self-oriented perfectionism is not a significant predictor of body image discrepancy for male or female students. Both male and female students reported a moderate level of perfectionist standards. Students in Grades 10 to 12 reported adopting a greater degree of perfectionist standards than did students in Grades 5 to 9. For students in Grades 5 to 9 only, male students reported a greater degree of perfectionist standard than did females in the same grade group.

Socially-Prescribed Perfectionism (SPP).

Socially-prescribed perfectionism includes the belief that significant others set exact standards and harshly evaluate oneself, and includes the need to attempt to meet these standards. It was hypothesized that participants with higher levels of socially-prescribed perfectionism would report greater body image discrepancy. This hypothesis was supported. Socially prescribed perfectionism is a significant predictor of body image

discrepancy for both male and female students. Overall the results demonstrate that male and female students who reported that others set exact standards and harshly evaluated them also reported greater body image discrepancy. In the present study, male and female students equally reported that they are aware of the standards others have for them and that they adopt the standards that others set for them. More students in the later grades reported that others apply levels of perfectionist standards to them than did students in early grades.

These findings support previous research with adult females (e.g., Hewitt et al., 1995). Hewitt and colleagues (2005) concluded that many women with eating disorders are overly attuned to the opinions of others and substitute social standards and external validation for personal goals. The current research advances this area by now documenting male and female children's and adolescents' perfectionist standards and how these self-standards relate to body image experiences. The current study demonstrates that both male and female students who are more likely to adopt social standards of attractiveness internalize these ideal body image standards for themselves and, subsequently, become more vulnerable to body image discrepancy and its associated problematic emotional and behavioural outcomes.

Overall, body focussed criticism, internalization of sociocultural standards of attractiveness, and perceiving that others hold perfectionistic standards of attractiveness for oneself predicted body image discrepancy as reported by students in Grades 5 to 12. The increasing social messages of attractiveness significantly predicted increased body image discrepancy experiences reported by both male and female students. Female

students reported more body image discrepancy than did male students, and students in Grades 10 to 12 reported more body image discrepancy than did those in Grades 5 to 9. As a result, adolescent females appear to be at the greatest risk for body image discrepancy. However, even young children reported that they feel there is a discrepancy between the way they look and the way they feel they should look. In addition, body image discrepancy was predicted by self-oriented perfectionism for male students but not for female students. Whereas, awareness of sociocultural standards of the ideal body image predicts body image discrepancy experienced by female students but not male students.

Consequences of Body Image Discrepancy

Psychological Well-Being.

The sixth hypothesis predicted that students who reported greater body image discrepancy would also report significantly lower levels of psychological well-being. This hypothesis was confirmed. In the current study, measures of anxiety, depression, and self-esteem were combined into an overall measure of psychological well-being. Psychological well-being is defined as the combination of strong general self-esteem and the absence of symptoms of depression and anxiety. The average well-being scores for students in the current study are best described as moderately strong. In general, these students are psychologically healthy with high self-esteem, low rates of depressive symptoms, and low rates of anxiety symptoms.

The results of the current research indicated that male students reported greater overall psychological well-being than did female students. In addition, students in earlier

grades reported greater overall psychological well-being than did students in later grades. Both of these findings are consistent with previous research (e.g., Friestad & Rise, 2004). This indicates that female students and adolescents in Grades 10 to 12 report experiencing lower levels of general self-esteem, more depressive symptoms, and more anxiety symptoms than male students and younger children in Grades 5 to 9. These results suggest that adolescents, both males and females, are more vulnerable to weakening emotional well-being overtime.

In the current study, male students who reported greater body image discrepancy also reported significantly lower levels of psychological well-being, which can result from either feeling too small or feeling too big. Moreover, psychological well-being is reduced as students age from Grade 5 to Grade 12 and this change is paralleled by increased body image discrepancy. The negative impact of body image discrepancy on psychological well-being is already an issue for both male and female students in Grade 5 and it gets worse across their school years. Body image discrepancy is a unique predictor of psychological well-being.

The current study demonstrates that changes in psychological well-being are predicted by body focussed criticism, and socially-prescribed perfectionism for both males and females. However, increasing awareness and internalization of sociocultural standards of attractiveness predicted a decrease in psychological well-being in female students. Moreover, body image discrepancy is a unique predictor of psychological well-being over and above the sociocultural and personal factors. The findings in the current study supports the results of a large body of previous research that has associated high

rates of body image discrepancy with negative emotional and psychological sequelae for women (e.g., Friestad & Rise, 2004) and men (e.g., Ricciardelli & McCabe, 2001b), and male and female students (e.g., Cafri et al., 2005; McCabe, Ricciardelli, & Holt, 2005; McCreary & Sasse, 2002).

Body Image Attitudes and Behaviours

The current study also furthers the understanding of body image experiences in the general population of school-age students, including both males and females. The Body Image Attitudes and Behaviours Scale for Children (BABS-C) items were developed to include both male and female body image experiences. The five factors included: Body Image Avoidance (BI-Avoid), Body Image Self-Consciousness (BI-Selfcons), Body Image Salience (BI-Sal), Size Reduction Behaviours (SRB), and Size Increase Behaviours (SIB). The Body Image Avoidance subscale measures the extent to which the individual avoids social situations in which other people can see their body shape and size (e.g., a swimming pool). The Body Image Salience subscale measures the extent to which the individual is self-aware of and thinks about one's own body image. The Body Image Self-Consciousness subscale measures the degree of uncomfortable self-awareness and embarrassed feelings about one's body image. The Size Reduction Behaviours and Size Increase Behaviours are indicators of the extent to which the individual engages in behaviours to make their body size smaller or larger, respectively. The results of each of the BABS-C subscales are discussed separately.

Body Image Avoidance. Overall, increased body image discrepancy predicted increased social avoidance behaviour for both male and female students. These students

appear to use social avoidance as a strategy for coping with body image discrepancy. Female students reported more avoidance than did male students, and students in Grades 10 to 12 reported more avoidance than did those in Grades 5 to 9. Adolescent females are at the greatest risk for withdrawing or avoiding social activities that may draw attention to their bodies. However, even young children are actively avoiding social activities that may draw attention to their body (e.g., swimming pool, beach, wearing revealing clothing, eating in a public place) because they experience body image discrepancy. For female students, social avoidance is predicted by their perception of social standards of attractiveness. Taken together, social messages of attractiveness directly and negatively impact the social behaviour of adolescents

For male students, social avoidance is also predicted by their perception of social standards of attractiveness. Specifically, withdrawing from social activities is a result of the male students' being aware that others hold perfectionistic standards of attractiveness which are communicated with critical comments about their body by family and peers, and the internalization of society's images of the ideal body for oneself. Overall, these findings indicate that body image discrepancy and social messages of attractiveness directly and negatively impact the social behaviour of students in Grades 5 to 12.

Body Image Self-Consciousness. Overall, female students reported feeling more self-conscious than male students and students in Grades 10 to 12 reported feeling more self-conscious than students in Grades 5 to 9. However, the female students and students in Grades 10 to 12 were only moderately self-conscious about their bodies. The male students and students in Grades 5 to 9 were only a little self-conscious about their bodies.

These results suggest that adolescent females are at the greatest risk for feeling self-conscious about their body shape and size.

Both being aware of the ideal body image portrayed in the media and perceiving that others hold perfectionistic standards of attractiveness for oneself predict the degree of self-consciousness about body shape and size for male and female students. Taken together, the awareness of society's images of the ideal body and the awareness that others hold perfectionistic standards of attractiveness may be considered the students' perceived social standards of attractiveness. Moreover, increasing body image discrepancy experiences significantly predicted greater self-consciousness, over and above the contributions of sociocultural and personal variables. Gender differences in variables that predict self-consciousness (i.e., self-oriented perfectionism for males, internalization of sociocultural standards of attractiveness for females) are eliminated once body image discrepancy is entered into the regression equation. As a result, it appears that self-conscious feelings are, to are large extent, predicted by body image discrepancy more than the social standards of attractiveness endorsed by students.

Body Image Salience. Both male and female students reported that they often thought about the way they looked, with female students thinking about their body more often than male students. In addition, body image discrepancy predicted body image salience for both male and female students. That is, Students in Grades 10 to 12 were more aware of their body image than students in Grades 5 to 9. A possible explanation for this difference in body image salience is that during puberty adolescent bodies are undergoing significant changes. These physical changes are very visible, so this makes adolescents

think about their bodies more often and feel more aware of their bodies.

For both male and female students, body-image salience is predicted by their perception of social standards of attractiveness. Taken together, perceiving that others hold perfectionistic standards of attractiveness for oneself, being aware of and internalizing society's ideal standards of attractiveness directly impact the salience of body shape and size for male and female students. Increasing body image discrepancy experiences predicted greater body image salience ratings, over and above the contributions of sociocultural variables, for male students only. Taken together, it seems that female students reported that they were more aware than male students of the sociocultural processes for communicating standards of society's ideal body image.

The results demonstrate that male students and female students who were both aware of and internalize sociocultural standards of attractiveness, and indicate that others hold them to perfectionistic standards of attractiveness are often thinking about the way their body looks. Body image discrepancy ratings are an additional predictor of the salience of body image for male students. This revealed a potential cycle of negative thinking and feeling for male students. To illustrate, if you feel bad about the way you look, you think about it more often, which can make you feel even worse, which then makes you think about it even more.

Size Reduction Behaviours. Both male and female students reported that they engage in strategies to reduce their body size, with female students in later grades reporting the most size reduction behaviours. The majority of female students reported engaging in weight loss strategies, such as diet to lose weight (74.7%), exercise to lose weight

(58.7%), and eat less to avoid getting fat (45.3%). Nearly half of the male students reported that they engage in these size reduction strategies: 47% reported that they exercise to reduce their weight, 17% reported that they diet to reduce their weight, and 19% reported that they eat less to avoid getting fat, with a slight decrease noted in the later grades. It is possible that this is a result of the physical development of boys during adolescence, which actually brings the vast majority of boys closer to the mesomorphic ideal body image (Watson, 2000). Findings in the current study are consistent with previous research that assessed dieting behaviour (e.g., Edlund et al., 1999; Huon and Lim, 2000; Wichstrom, 1995) and contributes to our understanding of how male students respond to feeling "too big" or "too small".

If students feel 'too big', they are more likely to attempt to reduce their body size through behaviour change. As a result, regardless of the directionality of the body image discrepancy, students who are feeling either 'too big' or 'too small' are vulnerable to unhealthy behaviours to change their body size. For female students, changes in behaviours to reduce body size are predicted by the internalization of sociocultural standards of attractiveness. For male students, changes in behaviours to reduce body size are predicted by body criticism and socially-prescribed perfectionistic standards of attractiveness.

Size Increase Behaviours. As with the Size Reduction Behaviours scale, items on the Size Increase Behaviours scale assessed the students' strategies for exercising and altering their eating habits. Almost half of the male students reported engaging in body size increase strategies: 27% report that they eat more to increase their weight, 48%

report that they exercise to increase their weight, and 27% report that they eat more to avoid being skinny, with males in later grades reporting the most size increase behaviours. However, only 13% of female students reported eating more, 12% reported exercising to increase their weight, and 9% reported eating more to avoid being skinny.

If students feel 'too small', they are more likely to attempt to increase their body size through behaviour change. As previously stated, regardless of the directionality of the body image discrepancy, students who are feeling either 'too big' or 'too small' are vulnerable to unhealthy behaviours to change their body size. Male students' attempts to increase their body size is predicted by greater body image discrepancy. However, female students who reported greater body image discrepancy reported engaging in fewer size increase behaviours.

This finding illustrates the exactly opposite directions of discrepancy experienced by male and female students. As previously reviewed, the body image ideal endorsed by males, either adult or adolescent, is a mesomorphic-athletic ideal (e.g., Watson, 2000). The body discrepancy experienced by male students is their perceived failure to attain this ideal. Evidence for the motivation for exercise, change in eating behaviours, and supplement use is documented in research investigating the drive for muscularity (e.g., Choi et al., 2002; McCabe & Ricciardelli, 2005; McCreary & Sasse, 2000; McCreary et al., 2004; Ricciardelli & McCabe, 2002). The current study adds to our understanding of the body image experience of the general population of children and adolescents in Grades 5 to 12.

The directionality of body image discrepancy (i.e., body image groups: "too small",

"just right", and "too big") is associated with body size change behaviours. Students in the 'too big' body image group reported that they engaged in more size reduction behaviours than did students in the 'just right' or the 'too small' body image groups. This is equally true for male and female students, and students in earlier or later grade groups. Students in the 'too small' body image group reported that they engaged in more size increase behaviours than did students in the 'just right' or the 'too big' body image groups. This is equally true for male and female students, and students in earlier or later grade groups. However, female students reported that they engaged in more size reduction behaviours as they aged, while male students stayed at the same rate. Size increase behaviours are reported exact opposite direction. That is, males reported that they engaged in more size increase behaviours than did female students. This is equally true across grade groups and all body image groups. Specifically, male students in the later grade group reported that they engaged in more size increase behaviours than did male students in the earlier grade groups. Female students stayed at the same low rate of size increase behaviours across grade groups, except the female students in the 'too big' body image group as they reported even fewer size increase behaviours in the later grade group.

In summary, students' body image discrepancy experiences are directly related to the various forms of social pressure they experience. Specifically, this social pressure is communicated through body focussed criticism, the media's portrayal of the ideal body image, and the individual's internalization of standards of the ideal body image. The students who report experiencing body image discrepancy are the students who avoid

social situations, are more likely to feel self-conscious, and are more interested in changing their body size. As previously discussed, by the time children are in Grades 5, their concepts of physical attractiveness are very similar to those of older adolescents. They learn the lesson of "what is beautiful is good" and incorporate these images into their belief systems.

Implications and Limitations of the Current Study

One contribution of the current study is the development of the BIPS-C to accurately assess the prevalence and severity of body image discrepancy. This scale measures the absolute discrepancy of one's self-perceived body in comparison to one's own ideal body image, regardless of the direction of this discrepancy. Measures developed and tested in the current study include body image self-perceptions experienced by both male and female school-aged children and adolescents. As a result, body size change behaviours and attitudes and the directionality of body image concerns have been documented in male and female students attending Canadian schools. Research investigating the occurrence of body image dissatisfaction and body change behaviours in school-aged children has included both male and female students (e.g, Holt & Ricciardelli, 2002; Ricciardelli & McCabe, 2001b; 2002; 2003a; for a comprehensive review, see Smolak, 2004). However, the current study provides a brief and reliable measure of body image discrepancy for children and adolescents.

Another contribution of the current study is the development of the BABS-C, a unique contribution to this area of research. The majority of scales currently used to assess behavioural consequences of a negative body image are designed to assess dieting

and weight loss strategies that are predictors of eating-disordered behaviours in females. The contribution of the BABS-C is the inclusion of multiple factors that are associated with body image concerns. These unique factors represent a comprehensive assessment of the impact of a negative body image including behaviours engaged in to avoid social situations, to reduce body size, and to increase body size. In addition, this measure assesses the attitudes associated with a negative body image including body salience and body self-consciousness. McCabe and Ricciardelli have published a number of studies utilizing their Body Image and Body Change Inventory scale (e.g., Ricciardelli & McCabe, 2002; 2003b). This measure is similar to the BABS-C in its development of multidimensional scales assessing body image importance, and body change strategies to decrease weight and increase muscle. Researchers may more readily accept the need to assess dysfunctional body size change behaviours, regardless of the directionality of change desired. Moreover, these measures apply to both male and female students, therefore, providing an accurate and comprehensive description of the body image experiences of both sexes.

Recently, researchers have focussed on the developmental factors that might serve as etiological pressures in the formation of body image disturbance and its associated pathology. The current study furthers our understanding of the impact of sociocultural variables on the development of body image in children and clarifies that these processes are more alike in male and female children than previously recognized. As previously discussed, sociocultural attitudes toward appearance are communicated through the mass media's portrayal of the ideal body image, the subculture's communication of acceptable

standards of body image through body focussed criticism, and the individual's internalization of these standards of the ideal body image. The strongest predictors of psychological well-being are socially-prescribed perfectionism (i.e., adopting perfectionistic standards imposed by others), body focussed criticism, and body image discrepancy (i.e., self-perceived deviation from one's own ideal body). As a result, these results also suggest that the psychological well-being of school-aged children and adolescents is directly related to sociocultural standards of appearance that they experience throughout their early development.

A number of explanatory models for understanding body image have been proposed and are currently being tested. For example, the biopsychosocial model attempts to describe the relationship between eating pathology and comorbid disorders (i.e., anxiety disorders, depression) utilizing both genetic studies and twin studies (Ricciardelli & McCabe, 2003b; 2004). In addition, researchers conducting twin studies concluded that there was significant comorbidity for anxiety disorders (i.e., panic disorder and specific phobia) and eating disorders and supported a shared underlying diathesis model (Keel, Klump, Miller, McGue, & Iacono, 2005). However, these researchers were unable to differentiate the genetic and shared environmental influences in the diathesis common to both anxiety and eating disorders. The limitations of that research include the lack of a body image measure and the continued focus on female patients with eating disorders. The results from the current study demonstrate that body image discrepancy was significantly related to psychological well-being. It may be that school-aged children are more vulnerable to sociocultural pressures directly effecting body image discrepancy and

its associated emotional and behavioural sequelae (e.g., psychological well-being).

There are several limitations of the current study. As in any large survey research, the generalizability of the results is a concern. Due to the limited demographic information known about this sample of students, it is impossible to assess the representativeness of the sample to other populations. Most children in the sample were Caucasian, spoke English as their first language, and lived in an urban center. However, as documented by Statistics Canada, this is representative of most Canadians (Statistics Canada, n.d.). A common criticism of survey research is the reliance on self-report measures. The basis of the BIPS-C is the assessment of the phenomenological effects of self-perceived discrepancy on the well-being of the individual. In the current study, it is the self-report of body image discrepancy that is the significant predictor of psychological well-being over and above all other tested variables. Previous research conducted by Sande and Buchanan (1994) compared the strength of association between measures of self-esteem and depression with a self-perceived body image discrepancy (i.e., BIPS-C) and with a physiological measure (i.e., body mass index). The results demonstrated that the BIPS-C, but not the BMI, was significantly associated with these measures of psychological well-being. Observations and reports from parents and peers of the students would be useful in future work.

In addition, this study did not allow for an assessment of the causal relations between variables because it was cross-sectional and the data were correlational. The hypotheses tested in this research were univariate relationships. The next step to take in furthering our understanding of the etiology of body image and its impact on psychological well-

being would be a time series analysis using structural equation modeling. Those results would describe the developmental changes experienced by children within a prospective study.

Despite these limitations, the current study demonstrates that body image discrepancy and its sequelae are already developed in both male and female students by Grade 5. Moreover, some students, male and female students alike, are vulnerable to appearance-related messages that are communicated by family, parents, peers, and the television media. This vulnerability to cultural and social standards of an ideal body image results in children adopting an unattainable ideal body image for themselves. Moreover, the body image discrepancy subsequently experienced by children results in decreased psychological well-being, increased attempts to change body size, and avoidance of social settings.

Suggestions for Future Research

The current study provided several significant contributions to the understanding of body image discrepancy as experienced by male and female students. However, there are a number of areas that future research can extend the current study.

One suggestion for future research is to further adapt scales used in the current research (e.g., BIPS-C, BABS-C) for an even younger population. The author had anticipated that an assessment of children as young as Grade 5 would reveal a significant number of children without body image discrepancy. The expectation was to be able to establish the factors that influenced the onset and development of body image discrepancy. However, this research documented that body image discrepancy is a

common occurrence for male and female students as early as Grade 5. Therefore, we can conclude that body image is already well developed by this time. Smolak (2004) reviewed the literature investigating body image in children and outlined a number of difficulties in assessing body image in children. She concluded that current measures (e.g., examples of some measures) have questionable reliability and validity with children younger than 8 years-old.

Another manner in which the current study could be extended is to repeat the survey in a longitudinal study of a cohort of male and female students. A longitudinal study would enable a more complex analysis to be conducted (i.e., time series modeling analysis). This would further our understanding of the developmental influences and changes that occur within the same participants. For example, it could reveal whether individuals are more vulnerable to the sociocultural messages of the ideal body image and experienced increased body image discrepancy when they go through changes in their physical development or their immediate social environment (e.g., entering adolescence). This may determine why some children internalize cultural messages and why others do not. In turn, it would identify the factors that provide these children with resistance to body image discrepancy (e.g., Shisslak et al, 1987; Shisslak & Crago, 2001). Most previous research focussed on children's vulnerabilities. Future research needs to also focus on children's strengths and experiences that provide resistance to body image discrepancy.

Two large-scale studies would further our understanding of the etiology and consequences of body image concerns in school-aged children. The first would be a

multi-site, prospective study to follow groups of students as they grow and physically mature. This study would examine the impact of biological change, including perceived pubertal timing and changes in body composition, on the development of body image. In addition, it would track developmental experiences and changes in social relationships (e.g., peer, romantic, and family), and provide information about the impact of body image discrepancy and when it leads to the development of more severe pathology. The second investigation would involve a repeat of the current study, but with significant others completing the questionnaires. Significant others could include: parent(s) or primary guardians, siblings, and other family members living with the student; peers; and other friends that have significant relationships with the student. This would provide information about the communication from these sources of body image values, attitudes, and body size change behaviours and its impact on the student's body image.

The current study also specified some factors that influence the development of body image discrepancy in late childhood and adolescence. These findings highlighted children's vulnerabilities to cultural messages about the ideal body image and specifies etiological factors implicated in the development of body image concerns. The results of the current research provide a rationale for the development of effective psychoeducational programs with children. This preventative treatment approach would be based on empirical evidence that define the needs, the focus, and the issues facing children and adolescents. These factors should be the focus of school-based educational programs for children, such as general health education programs, in order to protect them from developing body image discrepancy which can lead to eating disordered

behaviours; disordered exercise behaviours; increased risk for depression and anxiety; social withdrawal; and decreased self-esteem. A number of health education programs are already developed to address the increased incidence of obesity in children (e.g., Beery et al., 2004; LeBow, 1995; Zenong et al., 2005). The body image education program should target both male and female students's body image discrepancy experiences because both male and female students are vulnerable to the negative sequelae of body image discrepancy.

Based on the findings of the current study, the focus of an education program should be on sociocultural factors. Specific areas to target include the influence of the media on the development of healthy or unhealthy attitudes, the impact of body focussed criticism on the child's emotional well-being, and the perceived perfectionistic standards that others place on the child (for a comprehensive review of risk factors, prevention, and treatment programs for adolescents, see Levine & Smolak, 2006; Thompson and Smolak, 2001). Parents, teachers, and other adults need to have open dialogues with students about the unrealistic media images, problems with peer pressure, body focussed criticism, and perfectionism. Parents and educators alike could moderate student led discussions about body image and the impact of engaging in health-damaging behaviours that are designed to change body size, with an audience of male and female students. Moreover, we as a society need to be more aware of the impact of our negative verbal comments on the psychological well-being of our children.

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Footnotes

[1] When the terms student or students are used, I will be referring to both male and female students. Each hypothesis will be tested to establish that it is equally true for males and females.

[2] A number of parents, students, and school counselors contacted the principal investigator about their concerns. The principal investigator was asked to meet with school counselors, parents, and student groups on a number of occasions. Referrals were made to the appropriate agencies within the city, if required. A number of female students were considered medically 'at risk', so the families were instructed to contact their family physician.

[3] The individual students who endorsed this item cannot be identified; however, each school was provided with both overall prevalence rates for all participating schools and their individual school results. Additional support was provided to the schools including having the author provide workshops on body image for students and school staff. The school counselors were offered additional support for students who self-identified that they had concerns. The schools and school counselors were provided with information about support services available in the community.

Appendix A

Principal Contact Letter

Dear principal name,

We are writing to ask for your help with a program of research that we are conducting. We are from the Department of Psychology at the University of Manitoba. Dr. Gerry Sande is the Head of the Department of Psychology and has been on faculty as a social psychologist since 1986. Susan Buchanan is a senior Ph. D student in the Clinical Psychology program, specializing in Child Psychology. We received your name from Mr. John Doronbos, Executive Director of the Manitoba Federation of Independent Schools.

Since 1992 we have been conducting a program of research on the topic of body image. Along with documenting the prevalence of body image disturbances, we have examined the social antecedents (e.g., acceptance of images in the media) and the emotional and behavioural consequences (e.g., depression, social avoidance) of negative body images. Our work has focussed on "normal-range" disturbances, rather than the body images of those people who suffer from "clinical-range" problems, such as anorexia and bulimia. Thus we have found that approximately 80% of adult women and men suffer from some body image disturbances, and that these disturbances are linked to emotional problems such as lowered self-esteem, and increased anxiety, depression, social avoidance, and maladaptive eating patterns. We have documented these effects, not only with university undergraduates, but in older adults as well (up to the age of 73).

Appendix A

Principal Contact Letter Continued

We believe that the next critical step in our research is the examination of body images and their antecedents and consequences in children. We have already completed a preliminary study of students in grades 5 through 10 at a local school. In collaboration with Ms. Edina McDonald, an honours student working with Dr. Sande, we conducted a study at the Linden Christian School in 1997. We found many of the same kinds of body image disturbances and emotional consequences with this younger population.

It is important that we now conduct a large-scale study with children in order to examine the development of body image disturbances and their antecedents and consequences. The long-range goal of this research is to develop a curriculum that teachers and parents can use to help children deal with these difficult issues.

We have already made a presentation to the board of directors of the Manitoba Federation of Independent Schools. With their consent, we are now contacting the principals of some of the independent schools. We would like to come to your school and give a presentation to you and your teachers. We will briefly outline the aims of the project and describe in detail the procedures involved, and we would welcome your comments and questions. If you then agree, we would like to include your school in our research study.

Appendix A

Principal Contact Letter Continued

This research has been reviewed and approved by the Research Ethics Board at the University of Manitoba. In addition, before any student is included in the project, we would obtain consent from the student and from a parent.

We need your help to complete what we consider to be a very important research project. We would like to arrange a meeting with you and your teachers as soon as possible. We will be contacting you by telephone in about a week. However, please feel free to contact either Dr. Gerry Sande (phone#) or Susan Buchanan (phone#) in the meantime.

We hope you will help us by supporting our research. Thank-you for your time and consideration.

Sincerely,

Dr. Gerry Sande
Head, Department of Psychology

Susan Buchanan
Ph.D. Candidate

Appendix B

Parent Contact Letter

Dear Parent or Guardian,

We are writing to tell you about a research project we are conducting at your child's school, and to ask if you will consent to your child's participation.

We are conducting research on the way young people feel about their physical appearance. Dr. Gerry Sande is the Head of the Department of Psychology at the University of Manitoba and has been a faculty member in psychology since 1986. Susan Buchanan is a Ph.D. Candidate in the Clinical Psychology Training Program, specializing in Child Psychology. The board members of the Manitoba Federation of Independent Schools and the administration of your child's school have kindly agreed to cooperate, and we are requesting your permission to allow your child to participate in this research.

For several years we have been studying people's body image, that is, their perceptions of and satisfaction with their bodies. We ask people to tell us whether they see various parts of their bodies as being too small, too big, or just right. We first calculate how common dissatisfaction with one's body image is among females and males. We also study the extent to which dissatisfaction with one's body correlates with other personal dimensions, such as self-esteem, anxiety, and social withdrawal. So far, we have studied adults ranging in age from their late teens up to seventy years old. We have also done a preliminary study of children from grades 5 through 10. Now we would like to do a large scale study of students in grades 5 through 12.

Appendix B

Parent Contact Letter Continued

We think this study is particularly important for two reasons: **First**, it is important to study how body image dissatisfaction develops and to try to identify its causes (such as exposure to images in the media, etc.). **Second**, we want to develop a curriculum that will assist parents and teachers as they help children deal with these kinds of issues. One of the concerns parents may have with this kind of research is that they think this kind of research might trigger body image issues in their children, that is, the children will start to worry about something they hadn't been concerned with before. Our preliminary research indicates that this is rarely the case. Most children start to think about these issues well before grade 5. You only have to look at the kinds of things children tease each other about, as early as the first grade. So we know these things are already important to children. We really feel that teachers and parents should be ready to help children deal with these issues when such help is requested.

If you and your child are willing to participate, we would measure your child's body image (whether they see themselves as being too small or too large), as well as some personal dimensions we think might correlate with body image (e.g., self-esteem, anxiety, social withdrawal, etc.). The specific requirements of the research are for your child to spend approximately 50 minutes answering written questions. The questionnaires will be completed by the students in their classes. The entire school will be surveyed at the same time. All responses are **completely confidential and anonymous**. When we look at the

Appendix B

Parent Contact Letter Continued

survey responses, we look at the responses of the group as a whole. We do not analyze individual responses, so we are unable to provide feedback specific to your child. A copy of the survey is available for you to examine in the administration office of your school.

Whether you do or do not wish to have your child participate, please complete the attached consent form and mail it directly to us using the enclosed postage-paid envelope. In any case, your decision not to participate will have no negative consequences for your child. All obtained information will be used only for research purposes and will remain confidential and anonymous.

If you wish to receive a summary of the study's results when it becomes available, please provide your name and address on a separate piece of paper. Place your request for information in a sealed envelope that is to be mailed to us separately or you can email your request to Susan Buchanan at **sbuchan@cc.umanitoba.ca** (please remember to include your home address if you would like written feedback). A detailed summary of the results of this research will be provided to your school. Furthermore, an educational and consultation program for helping students with body image concerns and its related behaviors will be provided to the school.

This research has been reviewed and approved by the University of Manitoba Human Ethical Review Committee. If you have any questions or comments about the research,

Appendix B

Parent Contact Letter Continued

please feel free to contact either Dr. Gerry Sande by phone (phone#) or Susan Buchanan by phone (phone #) or email (email address). If you have any concerns about the legitimacy of this research, you could contact Dr. (Professor name), University of Manitoba, Human Ethics Review Committee at (phone #).

Thank-you for your time and consideration.

Sincerely,

Dr. Gerry Sande
Head, Department of Psychology

Susan Buchanan
Ph.D. Candidate

Appendix C

Demographics Questionnaire

PLEASE ANSWER THE FOLLOWING QUESTIONS, KEEP IN MIND THAT ALL RESPONSES ARE LOOKED AT ONLY AS A GROUP SO THEY ARE ANONYMOUS AND CONFIDENTIAL.

Age: _____ years Birth date: _____
Month/ year

Grade: _____

School: _____

Are you a _____ GIRL or a _____ BOY

How tall are you? _____ feet _____ inches OR _____ cm.

How much do you weigh? _____ lbs. OR _____ kg.

What would you like to weigh? _____ lbs. OR _____ kg.

Please place the completed survey in the envelope. Rip off the envelope flap with your name on it. When the teacher tells you that time is up, please return the envelope to the teacher.

THANK YOU FOR YOUR TIME AND COOPERATION!!

Appendix D

Body Criticisms Scale for Children

Please CIRCLE only ONE answer to the first part of each question. Then in the second part of the question, circle ALL answers that apply.

1. **Does anyone tell you that you need to lose weight? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

2. **Does anyone tease you about your body size? (circle one)**

NEVER SOMETIMES A LOT

Who teases you like this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

3. **Does anyone tell you that you are "too heavy"? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

4. **Does anyone tell you that you are ugly? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

Appendix D

Body Criticisms Scale for Children Continued

5. **Does anyone tell you that you are "too tall"? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

6. **Does anyone tell you that you need to gain weight? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

7. **Does anyone tell you that you are "too skinny"? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

8. **Does anyone tell you that you are "too short"? (circle one)**

NEVER SOMETIMES A LOT

Who tells you this? (circle all that apply)

MOTHER FATHER FAMILY CLASSMATES FRIENDS TEACHER

Appendix E

Media Exposure Scale

Please fill in the box above the answer that is right for you.

1. How much television do you watch each WEEKDAY? (excluding music videos and movies, we ask about them later).

☐	☐	☐	☐	☐	☐	☐
0 none	1-2 hours	3-4 hours	5-6 hours	7-8 hours	9-10 hours	more than 10 hours

2. How much television do you watch each WEEKEND day? *(excluding music videos and movies, we ask about them later).*

3. How many hours each WEEKDAY do you watch MUSIC VIDEOS?

4. How many hours each WEEKEND day do you watch MUSIC VIDEOS?

5. How many hours EACH WEEKDAY do you watch MOVIES? *(including at the theatre or at home rentals or on TV)*

6. How many hours EACH WEEKEND day do you watch MOVIES? *(including at the theatre or at home rentals or on TV)*

Appendix F

Sociocultural Appearance Attitudes Survey for Children (SAAS-C)

Please fill in the box to say how strongly you AGREE or DISAGREE with the following statements.

completely disagree ☐ ☐ ☐ ☐ ☐ completely agree

1. I want to look like the people on TV shows and in the movies.
2. I believe that clothes look better on thin female models.
3. I believe that clothes look better on muscular male models.
4. a. **(This question is for GIRLS ONLY)** Music videos that show thin women make me wish that I were thin.

   b. **(This question is for BOYS ONLY)** Music videos that show muscular men make me wish that I were muscular.
5. I do not wish to look like the models in the magazines.
6. I tend to compare my body to people in magazines and on TV.
7. In our society, most people think that fat people are unattractive.
8. a. **(This question is for GIRLS ONLY)** Looking at pictures of thin women make me wish that I were thin.

   b. **(This question is for BOYS ONLY)** Looking at pictures of muscular men make me wish that I were muscular.

Appendix F

Sociocultural Appearance Attitudes Survey for Children (SAAS-C) Continued

9. Attractiveness is very important if you want to be successful.

10. It is important for people to have a fit body, if they want to succeed in today's culture.

11. Most people my age look better than I do.

12. a. **(This question is for GIRLS ONLY)** I wish that I was as thin as some of the girls in my class.

    b. **(This question is for BOYS ONLY)** I wish that I was as muscular as some of the boys in my class

13. People think that the thinner women are, the better they look.

14. People think that the more muscular men are, the better they look.

15. In today's culture, it is not important to always look attractive.

16. I tend to compare my body to my friends' bodies.

17. I wish I looked like a swimsuit model.

18. I often read fashion and/or fitness magazines and compare my appearance to the models.

19. I am jealous of the people my age who are more attractive than I am.

Appendix G

Perfectionism Scale for Children

strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

1. I feel that I have to be perfect for my friends to like me.
2. I think that I have to be the best at whatever I am doing.
3. I feel that I have to be perfect for my parents to love me.
4. Others will like me even if I'm not perfect at everything I do.
5. When I work on something, it's important to me that the job is done perfectly.
6. It is very important to me to be perfect in everything that I do.
7. Other people thing I'm okay, even when I make a mistake.
8. I try to be as perfect as I can be.
9. Although they may not show it, other people get very upset with me when I make a mistake.
10. My parents are happy with me, even if I make a mistake, as long as they know I'm doing my best.
11. I get upset with myself when I make a mistake.
12. I must try as hard as I can at all times.

Appendix H

Body Image Perceptions Scale for Children

The statements listed below describe the perceptions you have of yourself. Complete each statement by choosing the option that best describes how you feel.

1. I feel that my stomach is ...

- ☐ much too small
- ☐ too small
- ☐ a little too small
- ☐ just right
- ☐ a little too big
- ☐ too big
- ☐ much too big

2. I feel that my face is ...

3. I feel that my chest is ...

4. I feel that my hips are ...

5. I feel my thighs are ...

6. I feel that my arms are ...

7. I feel that my rear end is ...

8. In general, I feel that my body is ...

Appendix H

Body Image Perceptions Scale for Children Continued

9. Please indicate how you feel about the way your body looks.

- ☐ very unhappy
- ☐ moderately unhappy
- ☐ somewhat unhappy
- ☐ it is OK, I am not happy or unhappy
- ☐ somewhat happy
- ☐ moderately happy
- ☐ very happy

Appendix I

Rosenberg Self-Esteem Scale for Children

strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ **strongly agree**

1. I feel that I am a good person, about as good as other people.

2. I feel that I have a number of good qualities.

3. All in all, I feel that I am a failure.

4. I am able to do things as well as most other people my age.

5. I feel that I do not have much to be proud of.

6. I like myself.

7. I wish that I could have more respect for myself.

8. I certainly feel useless at times.

9. I am satisfied with myself.

10. At times I think that I am no good at all.

Appendix J

State Trait Anxiety Inventory for Children - Trait Scale

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Appendix J

State Trait Anxiety Inventory for Children - Trait Scale Continued

Unable to reproduce this scale because it is copyrighted material

Appendix K

Depression Self-Rating Scale

Please fill in the box to say how often you feel this way.

□ most of the time **□ sometimes** **□ never**

1. I look forward to things now as much as I used to.
2. I sleep very well.
3. I feel like crying.
4. I like to go out with my friends.
5. I feel like running away.
6. I get stomach aches.
7. I have lots of energy.
8. I enjoy my food.
9. I can stick up for myself.
10. I think life isn't worth living.
11. I am good at things I do.
12. I enjoy the things I do as much as I used to.
13. I like talking about my family.
14. I have horrible dreams.

Appendix K

Depression Self-Rating Scale Continued

15. I feel very lonely.

16. I am easily cheered up.

17. I feel so sad I can hardly stand it.

18. I feel very bored.

Appendix L

Body Attitudes and Behaviors Scale (BABS-C)

Please fill in the box that describes how strongly you AGREE or DISAGREE with each of these statements. You can choose one box anywhere in the middle to say that you agree or disagree somewhere in between.

strongly disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ strongly agree

1. I think I am very pretty or very handsome.
2. The way my body looks is something I think about a lot.
3. I don't like to look at myself in the mirror.
4. It is important to me that I am not too fat or too skinny.
5. I like the way my body looks.
6. I think I am too fat.
7. I try to eat less because I don't want to be fat.
8. Other people avoid me because of my body.
9. I wear baggy or loose-fitting clothing in order to hide my body.
10. The way my body looks matters much less to me than other personal qualities.
11. I try to lose weight by exercising or working out regularly.
12. I like to wear clothing that shows my body.

Appendix L

Body Attitudes and Behaviors Scale (BABS-C) Continued

13. I hate to eat when a lot of people are around.

14. I hate to go to swimming pools or the beach because I feel embarrassed about my body.

15. I hate it when people talk about how my body looks.

16. I hate to go places where people are looking at my body.

17. I think I am too skinny.

18. I try to eat more because I don't want to be skinny.

19. The way my body looks is not very important to me.

20. I try to gain weight by exercising or working out regularly.

21. The way my body looks is a high priority in my life.

22. I look just as good as other people my age.

23. Have you ever been on a diet to lose weight?

- ☐ No, I have never been on a diet.
- ☐ Yes, once.
- ☐ Yes, two or three times.
- ☐ Yes, many times.
- ☐ Yes, I am always on a diet.

Appendix L

Body Attitudes and Behaviors Scale (BABS-C) Continued

24. Have you ever tried eating more to increase your weight?

- ☐ No, I have never tried to gain weight.
- ☐ Yes, once.
- ☐ Yes, two or three times.
- ☐ Yes, many times.
- ☐ Yes, I am always trying to gain weight.

Appendix M

Body-Attitudes and Behaviours Scale for Children (BABS-C) Factor Structure

Factor 1 = Body Salience

2. The way my body looks is something I think about a lot.

4. It is important to me that I am not too fat or too skinny.

19. The way my body looks is not very important to me. (R)

21. The way my body looks is a high priority in my life.

Factor 2 = Size Reduction Behaviours

6. I think I am too fat.

7. I try to eat less because I don't want to be fat.

11. I try to lose weight by exercising or working out regularly.

23. Have you ever been on a diet to lose weight?

Factor 3 = Size Increase Behaviours

17. I think I am too skinny.

18. I try to eat more because I don't want to be skinny.

20. I try to gain weight by exercising or working out regularly.

24. Have you ever tried eating more to increase your weight?

Appendix M

Body-Attitudes and Behaviours Scale for Children (BABS-C) Factor Structure Continued

Factor 4 = Body Self-Consciousness

1. I think I am very pretty or very handsome. (R)

5. I like the way my body looks. (R)

22. I look just as good as other people my age. (R)

Factor 5 = Social Avoidance

3. I don't like to look at myself in the mirror.

8. Other people avoid me because of my body.

9. I wear baggy or loose-fitting clothing in order to hide my body.

13. I hate to eat when a lot of people are around.

14. I hate to go to swimming pools or the beach because I feel embarrassed about my body.

15. I hate it when people talk about how my body looks.

16. I hate to go places where people are looking at my body.

Appendix N

Parent/Guardian Consent Form

Dear Parent or Guardian,

Please complete the following and return it by mail using the enclosed envelope as soon as possible.

Child's name:_____
(First name) (Surname)

School: _____

Grade: _____

_____ I **do consent** to let my child participate in the study on body image and behaviour.

_____ I **do not consent** to let my child participate in the study on body image and behaviour.

PARENT OR GUARDIAN SIGNATURE: _____

Date: _____

Appendix O

Research Assistant's Phone Call Protocol

SETTING UP FOR PHONE CALLS:

Remember to write down the name of the person you spoke with, yes or no to consent and whether they will email, fax, or mail in the original form. If they want us to mail another copy to them then we need their address.

Parent Telephone Calls Script: The AIM of this phone call is to obtain permission for the student to participate in the survey. SO always be a salesperson – speak slowly, with understanding, and keep a positive upbeat tone.

"Hello is this the parent of (STUDENT NAME)?"

"Hi my name is _____ I work for Dr. Sande and Susan Buchanan from the University of Manitoba. We are conducting a survey at (SCHOOL NAME). A couple of weeks ago we sent home an information package with a consent form. They were in a large brown envelope that was sent home with each student. Did you receive and read this?"

If you need to jog their memory :

The envelope was addressed to the parent or guardian of a student attending your school.

It was from the University of Manitoba.

It was sent home with your child.

If YES, "Were you able to you return the consent form to us?"

If YES, "The reason why I am calling is that we have not received your consent form. I was hoping to find out if you gave consent for your child to participate in the survey?" (record down parent's answer)

If YES. "Thank-you. Every student counts in our research. We appreciate your support. I will record down that you have given verbal consent (write down parent's name and date), but we still require written consent so I was wondering if you could- (choose appropriate answer) forward the consent form to us or email or FAX your consent to us so we have a written record."

Appendix O

Research Assistant's Phone Call Protocol Continued

If NO. "I understand your choice. Did you have any questions or concerns?" (if there are questions or concerns, you choose if you can answer them or forward the call to Susan) "Just for our own information, I was wondering if you could tell me why you said NO to this project?" (please record answer)

IF NO. "Oh, did you receive and read the information package?

IF YES, but did not read it: "I was wondering if I could speak with you about the survey for a minute." (explain the research using the following script, then ask if we can email or fax the information and consent form to them).

IF YES, received and read it but not replied. "We were hoping to have a reply from each parent. Did you have any questions or concerns?" (if there are questions or concerns, you choose if you can answer them or forward the call to Susan) "I was wondering if I could speak with you about the survey for a minute."

If NO. "I understand sometimes these things happen. We are hoping to have a reply from each parent. I was wondering if I could speak with you about the survey for a minute." (explain the research using the following script, then ask if we can email or fax the information and consent form to them).

"The board members of the Manitoba Federation of Independent Schools and the administration of your child's school have kindly agreed to cooperate, and we are requesting your permission to allow your child to participate in this research. For several years we have been studying people's body image, that is, their perceptions of and satisfaction with their bodies. We also study the extent to which dissatisfaction with one's body correlates with other personal dimensions, such as self-esteem, anxiety, and social withdrawal. We think this study is particularly important for two reasons: First, it is important to study how body image dissatisfaction develops and to try to identify its causes (such as exposure to images in the media, etc.). Second, we want to develop a curriculum that will assist parents and teachers as they help children deal with these kinds of issues. "

Appendix O

Research Assistant's Phone Call Protocol Continued

The specific requirements of the research are for your child to spend approximately 50 minutes answering written questions. The questionnaires will be completed by the all of the students in the school in their classes. All responses are completely confidential and anonymous. When we look at the survey responses, we look at the responses of the group as a whole. We do not analyze individual responses, so we are unable to provide feedback specific to your child. A copy of the survey is available for you to examine in the administration office of your school. A detailed summary of the results of this research will be provided to your school. Furthermore, this information will be used to develop an education program to help students with body image concerns and its related behaviors."

"So do you give permission for (STUDENT"S NAME) to participate in the survey?"

If YES. "Thank-you. Every student counts in our research. We greatly appreciate your support. I will record down that you have given verbal consent (write down parent's name and date), but we still require written consent so I was wondering if you could- (choose appropriate answer) forward the consent form to us or email or FAX your consent to us so we have a written record. "

If NO. "I understand your choice. If you have any questions or concerns I can have Ms. Buchanan or Dr. Sande call you? "(write down name and day & night phone numbers)

If still NO "I was wondering if you could tell me why you said NO to this project?" (please record answer)

END THE CALL ON A POSITIVE: "Thank-you for your time today. We believe that this research will provide some essential answers about body image experiences of children and adolescents today. Please feel free to contact us with any questions or concerns that arise. Have a good day. Bye."

Appendix P

Student Consent Form

We are researchers from the University of Manitoba. We are trying to understand how people feel about themselves and the way they look. Your answers will be part of an important research project that will help many young people just like yourself.

We would like you to answer some questions for us during this class time.

Anything you tell us will only be read by us. We can't tell which are your answers because we only look at the answers of all the students as a group, not each student's answers. Please don't write your name on the papers. We will be asking you to put your finished booklet back inside of the envelope and rip off the flap that has your name on it.

It is up to you if you want to answer these questions or not. If you don't want to answer these questions, we will give you something to do at your desk while the other students are answering the questions.

If you agree to take part and then change your mind, please know that you can stop answering the questions at any time. Just let us know.

It is important to us that you think carefully about taking part in our study. Our goal is to use this information to help many young people, teachers, and parents. We thank-you for sharing your time, your thoughts, and your experiences.

I, _____, having read this consent form, agree to
print your name here

take part in this research. I understand that no one will know which are my answers, that the answers of all students are looked at together, and that I may stop answering questions at any time.

_____ _____

Date Sign your name here

Appendix Q

Survey Cover Sheet Instructions

INSTRUCTIONS

These questions ask about how you feel about yourself.

There are no right or wrong answers. Just tell us how you feel.

Answer each question by filling in the little box beside the answer you choose. Be sure to mark only one box for each question.

For example:

I like to play sports...

- ☐ always
- ☐ most of the time
- ☐ sometimes
- ☐ hardly ever
- ☐ never

If you **always** like to play sports, then fill in the box that is beside **always** **OR**

If you like to play sports **most of the time**, then fill in the box that is beside **most of the time** OR

If you like to play sports **sometimes**, then fill in the box that is beside **sometimes** **OR**

If you **hardly ever** like to play sports, then fill in the box that is beside **hardly ever** **OR**

If you **never** like to play sports, then fill in the box that is beside **never.**

It is very important to read each question carefully and to answer it as best as you can. If a question isn't clear then raise your hand and ask the teacher about it. Please do not write your name anywhere in this booklet. Please don't talk while answering these questions. No one else is to know what answers you choose.

Appendix R

Substitute Activity for Non-participating Students

Substitute Activity for Nonparticipating Students

Since you will not be participating in the research project, we have put together some activities that are meant for fun only.

For the next 30 minutes, you will be asked to develop some ideas that may be new to you and will allow your to express yourself creatively. Please have fun with this.

When time is up, please place this booklet in the envelope provided. Then rip off the envelope flap with your name on it. Please return the envelope to your teacher.

ACTIVITY 1: A ROOM JUST FOR YOU

First, I would like you to think about designing your perfect room. A room just for you. A room that can have any shape, color, or lightness.

Put whatever you want in this room.

Use all of your senses: taste, touch, smell, sound, and sight.

Make this your ideal room.

Where would this room be?

Think about what you would be doing in this room, or what it would be like to spend a day in this room.

You can describe this room in words. You can draw this room. Please use this time to think about and describe **YOUR ROOM**.

Appendix R

Substitute Activity for Non-participating Students Continued

ACTIVITY 2: BRAINTEASER CONTEST

Try out this BRAINTEASER. In the years since this test was developed, it has been found that few people solve more than 5 of the 15 questions on the first try.

INSTRUCTIONS: Each question contains the initial of words that will make the complete expression.

Example: 12 M... in a Y.... 12 **Months** in a **Year**.

1. 26 L... of the A... _____

2. 7 W... of the W... _____

3. 12 S... of the Z... _____

4. 9 P... in the S... S... _____

5. 24 H... in a D... _____

6. 29 D... in F... in a L... Y... _____

7. 8 S... on a S... S... _____

8. 18 H... on a G... C... _____

9. 99 is W... G...'s number _____

10. 1000 Y... in the M... _____

11. 60 S.. in a M... _____

12. 88 K..on a P... _____

Appendix R

Substitute Activity for Non-participating Students Continued

13. 54 C...in a D... W... J..._____

14. 3 B.. M... (S..H..T..R...)_____

15. 40 D... and N... of the G... F... _____

Hope you enjoyed this brainteaser!

ACTIVITY 3: HOW WOULD YOU CHANGE THE WORLD?

Imagine yourself as the most powerful person in the world. You can do anything you want. If you could change anything in the world what would it be? What would the ONE thing be that you would change about your world today?

How can you, one person, make this happen in the world today?

Appendix R

Substitute Activity for Non-participating Students Continued

ACTIVITY 4: BRAINTEASER CONTEST 2

The following word scrambles are fun and easy to do! Unscramble the letters to make words.

WINTER WORDS:

WALSKENFO _____

LOGIO _____

OPUS _____

TAKESS _____

WINTER SYMPTOMS:

ROSE TORATH _____

NUNRY ESON _____

HLILCS _____

ACHEERA _____

HOCKEY WORDS:

KIRN _____

CUKP _____

EAFC FOF _____

OLIAGE _____

ONCE YOU HAVE COMPLETED THESE ACTIVITIES, AND THE TEACHER HAS INDICATED THAT THE CLASS TIME IS UP...PLEASE PLACE THIS BOOKLET BACK INSIDE THE ENVELOPE. TEAR OFF THE ENVELOPE FLAP. **HOPE YOU HAD FUN!!!**

Appendix Sa

Instructions for Teachers

1. **Please read the instruction sheet for students and follow the instructions detailed on the sheet.**

It is imperative that you read and follow the instructions as closely as possible, so that all students in all classrooms, in all schools will receive the same set of instructions.

Students are asked to remain seated quietly at their desks until the end of the class time.

2. **If questions arise:**

You can define a word or clarify a statement if a student does not understand a question. If the question requires a more detailed answer, please contact a research assistant located in the hallway of your school. He or she will be able to assist you and the student with any questions that have arisen. We ask that you remain in the classroom.

3. **If a student becomes upset or distressed:**

Please ask a research assistant to get Susan Buchanan. She will be able to assist you and the student with any problems that have arisen. Again, we ask that you remain in the classroom.

4. **When students hand in the survey:**

Please ensure that they have torn off the envelope flap with their name on it. The research assistants will also be checking for this.

5. **At the end of the class time:**

Ask all students to:
- finish up the survey,
- place the booklets inside of the envelope
- rip off the envelope flap with their name on it
- bring the envelope to you.

There will be research assistants placed outside of the classrooms. They will be collecting the surveys. We ask that you return the envelopes to the research assistant in the hallway of your school, if they don't come to you first.

Appendix Sb

Instructions for Teachers to Read to the Students

"The school has been asked to participate in a research project from the University of Manitoba. A few weeks ago you took home a letter to your parent. This letter explained the research to your parent and asked for permission for you to participate in this project. During this class time, the students in all classrooms will be completing a booklet of questions that I will be handing out to each of you. If your parents did not agree to your participation, then you will receive a different package. However, everyone will be asked to participate in an activity. Your answers will be part of a research project that will help many young people like yourselves."

(HAND OUT ENVELOPES)

"I would like you to turn to the first page, this is the **STUDENT CONSENT FORM**."

READ CONSENT FORM OUT LOUD TO THE STUDENTS

(PAUSE for a moment to allow any students to tell you that they have decided not to participate.)

"Now, I would like you to turn to the next page, this is the **INSTRUCTIONS** page. In front of you is a booklet with questions that ask about your personal thoughts and feelings. There are NO "right" or "wrong" answers. This is not a test.

Don't let anyone else see what you are writing down. We want your answers to be private so no one else knows what you said. And try not to look at anyone else's responses. It is important that you answer your questions by yourself, so please don't talk while you are answering the questions. Your answers are your business, not anyone else's.

This page shows an example of a question and how to answer. Carefully read the question and choose what your answer would be.

(PAUSE for a moment to allow students to complete the example)

This is how you do the survey. Carefully read each question before you answer it.

Appendix Sb

Instructions for Teachers to Read to the Students Continued

Try to answer each question. If you feel that you don't want to answer a question, then don't.

If you feel that you want to stop, then do stop. If you have any questions, please put your hand up and we will try to answer them.

Remember this is not a test. No one else will know how you answered any of the questions.

When you are finished, place the booklet inside the envelope and tear off the flap with your name on it. That way no one will know that those are your answers.

You are asked to remain in your seats, working quietly until the end of the class period.

"You can now begin."

Appendix T

School Feedback Letter

Dear _____ and Staff of _____:

A year ago we conducted a study in your school in which we examined students' body images. We greatly appreciated the time and effort made during your participation in our research. We are writing to tell you about the results of that research project.

We define body image as an "emotional perception" of one's body size and shape. It is a perception that does not necessarily match reality (you might see your body as too big or too small or too round or too thin even though you are healthy and look about the same as most other people). It is emotional because our perceptions influence, and are influenced by the way we feel about ourselves and life in general. We had three main aims. First, we wanted to measure these "emotional perceptions" in students in grades 5 through 12 to see how many students had negative body images (perceived their bodies as discrepant from the way they want to look) and to find out how great these discrepancies might be. Second, we wanted to identify possible predictors of body image discrepancies (what is it about the person or their social environment that might cause them to have a negative body image). Finally, we wanted to measure the possible consequences of body image discrepancies (for instance, does having a negative image of your body affect how you feel about yourself in general and how you behave).

We conducted our research in nine schools that are members of the Manitoba Federation of Independent Schools. Some of these schools were in Winnipeg and some were in smaller centres. Most were co-educational schools; some were boys only or girls only schools. Some were affiliated with a religious denomination and some were not. In total, approximately 2300 Manitoba students participated in our study, with nearly equal numbers of boys and girls.

Positive and Negative Body Images:

Body image discrepancies involve perceiving your body to be "too big" or "too small" than you think it ought to be. In other words, you see your body as not "just right." We measured students' body images and divided them into three categories, those who believed their bodies were <u>just right</u>, those who saw their bodies as <u>too small</u>, and those who saw themselves as <u>too big</u>. We found that these perceptions changed as students got older.

Appendix T

School Feedback Letter Continued

Girls:

Among girls, the percentage who perceived their bodies to be just right declined from 39% in grade 5 to 6% in grade 12. Among grade 5 girls who have body image discrepancies (do not see themselves as just right), about equal numbers see themselves as too small and too big. As they age, there is a strong tendency for girls to increasingly perceive their bodies as too big.

By the time they get to grade 12, only 12% believe their bodies are too small while 77% believe their bodies are too big. In addition, according to several studies we previously conducted, the vast majority of women attending University see their bodies as too big rather than too small.

Boys:

For the past 30 years body image researchers have said that body image discrepancies only occur among females and not males, and that discrepancies have negative emotional consequences for females and not males. The research we conducted over the past nine years revealed a very different pattern of results. This present study confirms that discrepancies are nearly as common for boys as for girls, and have similar effects. In a pattern similar to what we found with the girls, the percentage of boys who perceive their bodies to be just right declined from 42% in grade 5 to 21% in grade 12. In the earlier grades, boys who have body image discrepancies tend to see their bodies as too big rather than too small. For instance, in grade 5 39% of boys see their bodies as too big while 19% see themselves as too small. By the time they get to grade 12, 30% see themselves as too big while 49% see themselves as too small. In addition, according to several studies we previously conducted, there is a tendency for more males to see their bodies as too small as they reach physical maturity (among first year male university students - nearly twice as many men see themselves as too small as too big).

There are a couple of very important things to keep in mind about the occurrence of body image discrepancies. First, these discrepancies are, for most students, small to moderate in size. As students age, the discrepancies do tend to become more frequent and larger (that is, there are more students who see themselves as very much too small or too big), but for most of the students in our study, the tendency was to see themselves as slightly or moderately too big or too small. Second, there are different kinds of pressures exerted on girls and boys to have certain kinds of bodies. For the most part, there is pressure on girls to be smaller than they are. For boys, if they see themselves as either smaller or larger than the muscular "ideal" they can develop negative body images.

Appendix T

School Feedback Letter Continued

Predictors of Body Images:

A. Personality Traits

We examined two kinds of possible causes of body image. We measured personality predictors, and specifically, two kinds of perfectionism. One is called "self-oriented" perfectionism, that is the tendency to set high standards for yourself.

The second is called "socially-oriented" perfectionism, or the tendency to try to live up to what you believe are other people's expectations of you. For both girls and boys, self-oriented perfectionism was not a good predictor of body image (probably doesn't have much to do with causing body image discrepancies). On the other hand, socially-oriented perfectionism was a much stronger predictor of body image discrepancies. Interestingly, the relation between socially-oriented perfectionism and negative body images is as strong for grade 5 students as it is for grade 12 students (and it is nearly equal in strength for boys and girls). In other words, the students' belief about what others expect of him or her generally is associated with "looking a certain way" and this is already affecting their self-perceptions in grade 5. We think this may well start much earlier (although for several reasons we have not yet conducted research on students in grades 4 or younger).

B. The Social Environment

We measured the effects of two aspects of the social environment. The first concerns the media to which students are exposed (e.g., magazines, television, movies, etc.). We looked at the effects of simply being exposed to images presented in the media, but we also looked at the extent to which students "internalized" those images (that is, the extent to which they think they should look like the young men and women they see in these magazines and in the movies). Overall, we found that simply being exposed to the media did not have much of an effect on students' body images. However, we found that the internalization of those images strongly predicted body image discrepancies. That is, the more that students "bought into" these images and aspired to look like the young people they saw in the media, the more likely they were to see their own bodies as being either too small or too big.

The second aspect of the social environment we studied concerned the effects of feeling that you have been criticized for the way you look. In particular, we examined the effects on these students of feeling criticized (or teased) by their family members and by their fellow students. For girls, perceived criticism from both peers and family members predicted negative body images. Interestingly, as girls aged, perceived criticism from their family members had increasingly negative effects. In fact, for girls in grades 10, 11, and

Appendix T

School Feedback Letter Continued

12, perceived criticism from family members had a greater negative effect than did criticism from their fellow students. For boys, perceived criticism from both peers and family members was a strong predictor of negative body images. Boys seem to be especially affected by perceived criticism from their fellow students, even as early as grade 5.

Emotional Correlates of Body Images:

One of the most consistent results of our research over the past 9 years is that negative body images are associated with certain kinds of feelings about one self. In this study, we measured three components of psychological and emotional well-being; self-esteem, depression, and anxiety. It is important to say that in general the students in our study showed moderately high self-esteem and moderately low levels of anxiety and depression. For example, scores on the depression scale could range between a low of zero (no depressive symptoms) and 36 (very depressed) and had a mid-point of 18. The average score for these students was only 8.7, indicating that on average they weren't depressed.

There was a tendency for students in the upper grades to be a little more anxious and a little lower on self-esteem than students in the earlier grades, but on average the senior students still showed a fairly robust self-esteem and not much anxiety or depression. Despite these overall trends, we did find significant and substantial correlations between body images and emotional well-being. That is, for both boys and girls, negative body images were accompanied by lowered self-esteem, and increased anxiety and depression.

There are a couple of very important things to know about the relation between body image and psychological well-being. First, this connection between how you perceive your body and emotional indicators like self-esteem, anxiety, and depression is already present by grade 5. This connection might well start at an even younger age. Our research with University students and older adults shows that this relation persists over a long time. Second, the relation between body image and psychological well-being is different for girls and boys. For girls, in general, "smaller is better." That is, the more girls see themselves as being <u>too big</u>, the lower their self-esteem and the higher their depression and anxiety. For boys, the connection between body image and emotional well-being is a "two-edged sword." For boys, decreased well-being is connected to seeing themselves as either <u>too small or too big</u>. For boys there is apparently a muscular ideal, and if they see themselves as smaller or bigger than that ideal, they have lower self-esteem and higher depression and anxiety.

Appendix T

School Feedback Letter Continued

In summary:

It is worth repeating a couple of things. First, for the most part the students in our study had slight to moderate body image discrepancies and on average they had relatively high self-esteem and relatively low levels of anxiety and depression. Nevertheless, we found that body image discrepancies were common for both boys and girls, were present even among grade 5 students, and were still present at grade 12. Second, we found that the presence of negative body images were predicted by socially-oriented perfectionism, internalization of images in the media, and perceived criticism by both peers and family members. We also found that negative body images were accompanied by lowered self-esteem and increased symptoms of anxiety and depression.

We want to thank you again for your school's staff and student participation in our study. We think that our research is very important, not only for understanding the development of body images and their causes and consequences, but more importantly for the development of educational programs aimed at helping students cope with these issues. Now that we have been able to identify specific factors that influence the development of negative body images, we can investigate interventions designed to address these factors specifically. We are in the process of developing intervention programs for men, women, and school age students, including educational programming for students of both genders. Again, the schools continue to be key in providing opportunities to educate boys and girls alike and providing information to families about issues that their children are facing. In feedback letters to parents, we suggested that if they had concerns about their own child's experiences related to these issues that they first contact their school counselor. We believe that school counselors can best provide suggestions on how to talk to their child(ren) about this.

We have enclosed information specific to the students attending your school. These cross-sectional data can provide you with a snapshot of the experiences of students in your school at the time of the survey.

In addition, we have enclosed information about services in the community and resources in print or on the internet that address body image issues in general. We have included resource information specific to the prevention and treatment of eating disorders, mainly targeting women. However, to the best of our knowledge, there are no services in the community that are specifically designed to address body image concerns or associated harmful behaviours that men experience.

If you have any questions about this research, please feel free to contact us by mail or email (email addresses.

Appendix U

Parent Feedback Letter

Dear parent:

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Appendix U

Parent Feedback Letter Continued

Girls:

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For the past 30 years body image researchers have said that body image discrepancies only occur among females and not males, and that discrepancies have negative emotional consequences for females and not males. The research we have conducted over the past 9 years has revealed a very different pattern of results. This present study confirms that discrepancies are nearly as common for boys as for girls, and have similar effects. In a pattern similar to what we found with the girls, the percentage of boys who perceive their bodies to be just right declined from 42% in grade 5 to 21% in grade 12. In the earlier grades, boys who have body image discrepancies tend to see their bodies as too big rather than too small. For instance, in grade 5 39% of boys see their bodies as too big while 19% see themselves as too small. By the time they get to grade 12, 30% see themselves as too big while 49% see themselves as too small. In addition, according to several studies we have conducted, there is a tendency for more males to see their bodies as too small as they reach physical maturity (among male university students nearly twice as many men see themselves as too small as too big).

There are a couple of very important things to keep in mind about the occurrence of body image discrepancies. First, these discrepancies are, for most students, small to moderate in size. As students age, the discrepancies do tend to become more frequent and larger (that is, there are more students who see themselves as very much too small or too big), but for most of the students in our study, the tendency was to see themselves as slightly or moderately too big or too small. Second, there are different kinds of pressures to have a certain kind of body exerted on girls and boys. For the most part, there is pressure on girls to be smaller than they are (by the time they get to University, many more women see their bodies as too big rather than too small). For boys, if they see themselves as either smaller or larger than the muscular "ideal" they can develop negative body images.

Appendix U

Parent Feedback Letter Continued

Predictors of Body Images:

A. Personality Traits

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Interestingly, the relation between socially-oriented perfectionism and negative body images is as strong for grade 5 students as it is for grade 12 students (and it is nearly equal in strength for boys and girls). In other words, the students' belief about what others expect of him or her generally is associated with "looking a certain way" and this is already affecting their self-perceptions in grade 5. We think this may well start much earlier (although for several reasons we haven't been able to do the research on students in grades 4 or younger).

B. The Social Environment

We measured the effects of two aspects of the social environment. The first concerns the media to which students are exposed (e.g., magazines, television, movies, etc.). We looked at the effects of simply being exposed to images presented in the media, but we also looked at the extent to which students "internalized" those images (that is, the extent to which they think they should look like the young men and women they see in these magazines and in the movies). Overall, we found that simply being exposed to the media did not have much of an effect on students' body images. However, we found that the internalization of those images strongly predicted body image discrepancies. That is, the more that students "bought into" these images and aspired to look like the young people they saw in the media, the more likely they were to see their own bodies as being either too small or too big.

Appendix U

Parent Feedback Letter Continued

The second aspect of the social environment we studied concerned the effects of feeling that you have been criticized for the way you look. In particular, we examined the effects on these students of feeling criticized (or teased) by their family members and by their fellow students. For girls, perceived criticism from both peers and family members predicted negative body images. Interestingly, as girls aged, perceived criticism from their family members had increasingly negative effects. In fact, for girls in grades 10, 11, and 12, perceived criticism from family members had a greater negative effect than did criticism from their fellow students. For boys, perceived criticism from both peers and family members was a strong predictor of negative body images. Boys seem to be especially affected by perceived criticism from their fellow students, even as early as grade 5.

Emotional Correlates of Body images:

One of the most consistent results of our research over the past 9 years is that negative body images are associated with certain kinds of feelings about one self. In this study, we measured three components of psychological and emotional well-being; self-esteem, depression, and anxiety. It is important to say that in general the students in our study showed moderately high self-esteem and moderately low levels of anxiety and depression. For example, scores on the depression scale could range between a low of zero (no depressive symptoms) and 36 (very depressed) and had a mid-point of 18. The average score for these students was only 8.7, indicating that on average they weren't depressed. There was a tendency for students in the upper grades to be a little more anxious and a little lower on self-esteem than students in the earlier grades, but on average the senior students still showed a fairly robust self-esteem and not much anxiety or depression. Despite these overall trends, we did find significant and substantial correlations between body images and emotional well-being. That is, for both boys and girls, negative body images were accompanied by lowered self-esteem, and increased anxiety and depression.

There are a couple of very important things to know about the relation between body image and psychological well-being. First, this connection between how you perceive your body and emotional indicators like self-esteem, anxiety, and depression is already present by grade 5. This connection might well start at an even younger age. Our research with University students and older adults shows that this relation persists over a long time. Second, the relation between body image and psychological well-being is different for girls and boys. For girls, in general, "smaller is better." That is, the more girls see themselves as being <u>too big</u>, the lower their self-esteem and the higher their depression

Appendix U

Parent Feedback Letter Continued

and anxiety. For boys, the connection between body image and emotional well-being is a "two-edged sword." For boys, decreased well-being is connected to seeing themselves as either too small or too big. For boys there is apparently a muscular ideal, and if they see themselves as smaller or bigger than that ideal, they have lower self-esteem and higher depression and anxiety.

In summary:

It is worth repeating a couple of things. First, for the most part the students in our study had slight to moderate body image discrepancies and on average they had relatively high self-esteem and relatively low levels of anxiety and depression. Nevertheless, we found that body image discrepancies were common for both boys and girls, were present even among grade 5 students, and were still present at grade 12. In addition, we found that the presence of negative body images were predicted by socially-oriented perfectionism, internalization of images in the media, and perceived criticism by both peers and family members. We also found that negative body images were accompanied by lowered self-esteem and increased symptoms of anxiety and depression.

We want to thank you again for agreeing to your child's participation in our study. We think that our research is very important, not only for understanding the development of body images and their causes and consequences, but more importantly for the development of educational programs aimed at helping students cope with these issues. We will be providing detailed feedback to the schools to tell them about the results of our study.

If you have any questions about this research, please feel free to contact us by mail or email (email addresses). If you have concerns about your own child's experiences related to these issues, we recommend that you first contact the counselor at your child's school. The school counselor can provide suggestions on how to talk to your child about this.

Table 1.1

Assessment and Transformation of Variables with Non-normal Distributions of Skewness and Kurtosis.

	Before Transformation [a]			After Transformation [b]		
Factor	Mean	Skewness	Kurtosis	Mean	Skewness	Kurtosis
SOCPER	14.05	1.05	1.06	3.65	0.54	-0.21
BC-Peer	2.54	2	5.01	1.21	0.42	-0.53
BC-Family	2.09	3.52	16.95	0.97	1.03	0.42
BI-SIB	8.82	1.2	1.06	2.86	0.77	-0.34

Note. SOCPER is Socially-Prescribed Perfectionism, BC-Peer is Body Criticism from Peers Subscale; BC-Family is Body Criticism from Family Subscale; BI-SIB is Body Image (BABS-C) Size Increase Behaviours Subscale. [a] Prior to transformation indices: S.E. Skewness = 0.06, S.E. Kurtosis = 0.12.

[b] Square root transformation was computed for these variables. After transformation indices: S.E. Skewness = 0.77, S.E. Kurtosis = 0.12.

Table 1.2

Bivariate Correlations for Male and Female Students.

Measure	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. BIin	--------																	
2. BIAbs	.21** (.58**)	--------																
3. RSE	-.11** (-.28**)	-.44** (-.51**)	--------															
4. DSRS	.10** (.21**)	.36** (.43**)	-.68** (-.72**)	--------														
5. BCPeer	-.08** (-.12**)	.40** (.17**)	-.33** (-.31**)	.28** (.31**)	--------													
6. BCFam	.00 (.11**)	.32** (.25**)	-.24** (-.28**)	.24** (.31**)	.59** (.43**)	--------												
7. BCTotal	-.03 (-.00)	.40** (.25**)	-.32** (-.35**)	.30** (.36**)	.86** (.83**)	.90** (.86**)	--------											
8. STAIC	.12** (.27**)	.39** (.46**)	-.56** (-.65**)	.67** (.76**)	.37** (.31**)	.31** (.30**)	.38** (.35**)	--------										
9. SOP	.02 (.14**)	.04 (.16**)	.03 (-.14**)	-.02 (.12**)	.04 (.10**)	.05 (.10**)	.05 (.12**)	.23** (.30**)	--------									
10. SPP	.07* (.18**)	.38** (.39**)	-.62** (-.63**)	.55** (.62**)	.31** (.35**)	.25** (.34**)	.31** (.40**)	.53** (.61**)	.18** (.23**)	--------								
11. SA-Aware	.05 (.30**)	.27** (.45**)	-.23** (-.45**)	.18** (.39**)	.23** (.24**)	.15** (.25**)	.21** (.29**)	.28** (.45**)	.26** (.34**)	.35** (.45**)	--------							
12. SA-Intern	.04 (.37**)	.35** (.51**)	-.22** (-.44**)	.14** (.33**)	.24** (.19**)	.14** (.18**)	.20** (.21**)	.29** (.45**)	.24** (.29**)	.30** (.39**)	.58** (.66**)	--------						
13. MES	.06* (.02)	.11** (.11**)	-.11** (-.16**)	.14** (.24**)	.15** (.14**)	.17** (.14**)	.19** (.17**)	.11** (.15**)	-.06 (-.08**)	.19** (.22**)	.06* (.09**)	.08** (.13**)	--------					
14. BISelfcons	.17** (.44**)	.48** (.61**)	-.59** (-.62**)	.42** (.47**)	.22** (.14**)	.13** (.18**)	.18** (.18**)	.32** (.44**)	-.07* (.11**)	.37** (.40**)	.16** (.39**)	.15** (.41**)	.05 (.07*)	--------				
15. BISalience	.10** (.25**)	.25** (.41**)	-.13** (-.38**)	.11** (.27**)	.13** (.15**)	.07* (.12**)	.11** (.15**)	.29** (.38**)	.29** (.29**)	.24** (.32**)	.42** (.53**)	.50** (.70**)	.10** (.10**)	.02 (.29**)	--------			
16. SIB	-.47** (-.48**)	.17** (-.11**)	-.16** (.03)	.11** (-.01)	.33** (.27**)	.28** (.12**)	.33** (.22**)	.18** (-.05)	.09** (.01)	.21** (.03**)	.17** (-.06)	.25** (-.12**)	.06* (.08**)	-.03 (-.12**)	.18** (-.09**)	--------		
17. SRB	.58** (.62**)	.34** (.56**)	-.25** (-.44**)	.21** (.34**)	.08** (.08**)	.06 (.19**)	.08** (.16**)	.24** (.39**)	.14** (.26**)	.23** (.33**)	.22** (.49**)	.27** (.63**)	.09** (.08**)	.32** (.48**)	.32** (.56**)	-.25** (-.33**)	--------	
18. BI-Avoid	.37** (.50**)	.54** (.61**)	-.54** (-.60**)	.46** (.50**	.32** (.16**)	.22** (.26**)	.29** (.24**)	.46** (.50**)	.07* (.22**)	.42** (.44**)	.27** (.44**)	.29** (.44**)	.09** (.08**)	.54** (.65**)	.19** (.35**)	.01 (-.11**)	.52** (.56**)	--------
19. PWB	-.13** (-.29**)	-.47 (-.53**)	.89** (.91**)	-.86 (-.88**)	-.38** (-.35**)	-.31** (-.33**)	-.38** (-.39**)	-.86** (-.89**)	-.08* (-.71)	-.66** (-.69**)	-.27** (-.49**)	-.27** (-.47**)	-.13** (-.19**)	-.52** (-.59**)	-.21** (-.40**)	-.18** (.04)	-.27** (-.45**)	-.57** (-.60**)

Table 2

Parent Consent Rates for Students in Each Grade.

	Yes		No	
Grade	#	%	#	%
5	98	65	52	35
6	83	67	41	33
7	219	79	57	21
8	255	79	67	21
9	451	86	84	14
10	439	84	81	16
11	482	89	57	11
12	429	91	45	10
Spare	82	86	11	14
International Students	30	100	0	0

Note. Spare indicates students that were not in class during the survey class period. [a] International Students were students that lived in residence at one of the schools.

Table 3

Distribuion of Survey Participation Across School Characteristics.

		Religious Affiliation	No Religious Affiliation	Urban Location	Rural Location	Coed School	Single Gender School
Males	*n*	941	240	1127	54		
	%	79.7	20.3	95.4	4.6		
Females	*n*	1004	121	1071	54		
	%	89.2	10.8	95.2	4.8		
All students	*n*					1541	765
	%					66.8	33.2

Note. Total number of male students = 1181 and female students = 1125. 11 male students and 2 female students missing grade information.

Table 4

Distribution of Survey Participation Across Grades.

	Grade								Total
	5	6	7	8	9	10	11	12	
Males									
n	49	50	117	92	233	211	229	189	1170
%	4.1	4.2	9.9	7.8	19.7	17.9	19.4	16	99.1
Females									
n	31	24	127	143	209	189	208	192	1123
%	2.8	2.1	11.3	12.7	18.6	16.8	18.5	17.1	99.8

Note. Total number of male students = 1181 and female students = 1125. 11 male students and 2 female students missing grade information.

Table 5.1

Descriptive Statistics for Male Students.

Measure	# of items	Possible Range	Mean	Mode	SD	α
BC-Family	3	0 to 30	2.15	0	3.80	0.86
BC-Peers	2	0 to 20	2.64	0	3.41	0.78
B.C.S.	8	0 to 99	5.05	0	70.70	0.85
M.E.S.	6	0 to 220	38.27	17	26.30	0.79
SA-Aware	10	10 to 50	27.20	28	6.61	0.73
SA-Internal	9	9 to 45	22.17	13	7.72	0.85
S.O.P.	6	6 to 42	28.36	28	7.40	0.73
S.P.P.	6	6 to 42	14.32	13	6.50	0.77
BILIN	8	-24 to +24	0.18	0	4.45	0.83
BIABS	8	0 to 24	3.86	0	3.80	0.83
RSES-C	10	10 to 70	56.1	70	11.00	0.87
DSRS	18	0 to 36	8.21	4	5.35	0.85
STAI-C	20	20 to 80	39.11	34	9.26	0.88
BI-Avoid	7	7 to 49	16.81	13	7.63	0.78
BI-Selfcons	3	3 to 21	9.14	9	3.94	0.76
BI-Salience	4	4 to 28	16.28	17	5.91	0.76
SRB	4	4 to 28	8.91	4	4.82	0.70
SIB	4	4 to 28	9.81	4	5.45	0.75
PWB	48	10 to 166	124.74	143	22.25	0.83

Notes. Males *n*= 1181. BC Family and BC Peer are subscales of the Body Criticism Scale; BCS = Body Criticism Scale total score; MES = Media Exposure Scale; SA-Aware = Sociocultural Appearance Attitudes Survey for Children-Awareness Factor; SA-Internal = Sociocultural Appearance Attitudes Survey for Children- Internalization Factor; SOP = Perfectionism Scale for Children - Self-Oriented Perfectionism; SPP = Perfectionism Scale for Children - Socially-Prescribed Perfectionism. BILIN = Body Image Perceptions Scale- linear total; BIABS = Body Image Perceptions Scale-absolute total; RSES-C = Rosenberg Self-Esteem Scale for Children; DSRS = Depression Self-Rating Scale; STAIC = State Trait Anxiety Inventory for Children; Body Attitudes and Behaviours Scale for Children: BI-Avoid = Body Image Avoidance, BI-Selfcons = Body Image Self-Consciousness; BI- Sal = Body Image Salience, SRB = Size Reduction Behaviours; SIB = Size Increase Behaviours; PWB = Psychological Well-Being.

Table 5.2

Descriptive Statistics for Female Students.

Measure	# of items	Possible Range	Mean	Mode	SD	α
BC-Family	3	0 to 28	2.05	1	3.05	0.75
BC-Peers	2	0 to 18	2.34	0	2.74	0.74
BCS	8	0 to 99	4.49	1	5.06	0.75
M.E.S.	6	0 to 220	32.40	28	21.80	0.77
SA-Aware	10	10 to 50	30.83	26	7.60	0.80
SA-Internal	9	9 to 45	26.42	29	9.58	0.92
S.O.P.	6	6 to 42	27.65	29	7.44	0.78
S.P.P.	6	6 to 42	14.06	6	6.92	0.79
BILIN	8	-24 to +24	2.95	0	4.85	0.82
BIABS	8	0 to 24	5.66	6	3.93	0.79
RSES-C	10	10 to 70	52.64	56	11.90	0.88
DSRS	18	0 to 36	9.26	8	5.67	0.86
STAI-C	20	20 to 80	42.18	36	9.78	0.89
BI-Avoid	7	7 to 49	19.67	15	8.22	0.77
BI-Selfcons	3	3 to 21	10.35	7	4.26	0.81
BI-Salience	4	4 to 28	18.57	22	5.80	0.80
SRB	4	4 to 28	12.34	4	5.92	0.76
PWB	48	16 to 166	117.21	139	24.50	0.84

Notes. Females *n*= 1125. BC Family and BC Peer are subscales of the Body Criticism Scale; BCS = Body Criticism Scale total score; BCS = Body Criticism Scale; MES = Media Exposure Scale; SA-Aware = Sociocultural Appearance Attitudes Survey for Children-Awareness Factor; SA-Internal = Sociocultural Appearance Attitudes Survey for Children- Internalization Factor; SOP = Perfectionism Scale for Children - Self-Oriented Perfectionism; SPP = Perfectionism Scale for Children - Socially-Prescribed Perfectionism; BILIN = Body Image Perceptions Scale- linear total; BIABS = Body Image Perceptions Scale-absolute total; RSES-C = Rosenberg Self-Esteem Scale for Children; DSRS = Depression Self-Rating Scale; STAIC = State Trait Anxiety Inventory for Children; Body Attitudes and Behaviours Scale for Children: BI-Avoid = Body Image Avoidance, BI-Selfcons = Body Image Self-Consciousness; BI- Sal = Body Image Salience, SRB = Size Reduction Behaviours; SIB = Size Increase Behaviours. PWB = Psychological Well-Being.

Table 5.3

Descriptive Statistics for Earlier Grade Students (Grades 5 to 9).

Measure	# of items	Possible Range	Mean	Mode	SD
BC-Family	3	0 to 28	2.28	1	3.05
BC-Peers	2	0 to 18	2.66	0	2.74
B C S	8	0 to 99	5.12	1	5.06
M E S	6	0 to 220	33.52	28	23.20
SA-Aware	10	10 to 50	26.01	26	5.80
SA-Internal	9	9 to 45	21.90	17	8.38
S.O.P.	6	6 to 42	27.26	27	7.33
S.P.P.	6	6 to 42	13.54	6	6.51
BILIN	8	-24 to +24	1.28	0	4.44
BIABS	8	0 to 24	4.12	0	3.77
RSES-C	10	10 to 70	55.84	70	11.10
DSRS	18	0 to 36	8.38	4	5.36
STAI-C	20	20 to 80	39.32	34	9.45
BI-Avoid	7	7 to 49	17.46	13	7.44
BI-Selfcons	3	3 to 21	9.26	9	4.10
BI-Salience	4	4 to 28	16.60	16	6.06
SRB	4	4 to 28	9.99	4	5.38
SIB	4	4 to 28	7.59	4	4.47
PWB	48	16 to 166	124.15	143	22.60

Notes. *n*= 1075. 13 students did not indicate grade.BC Family and BC Peer are subscales of the Body Criticism Scale; BCS = Body Criticism Scale total score; MES = Media Exposure Scale; SA-Aware = Sociocultural Appearance Attitudes Survey for Children-Awareness Factor; SA-Internal = Sociocultural Appearance Attitudes Survey for Children- Internalization Factor; SOP = Perfectionism Scale for Children - Self-Oriented Perfectionism; SPP = Perfectionism Scale for Children - Socially-Prescribed Perfectionism. BILIN = Body Image Perceptions Scale- linear total; BIABS = Body Image Perceptions Scale-absolute total; RSES-C = Rosenberg Self-Esteem Scale for Children; DSRS = Depression Self-Rating Scale; STAIC = State Trait Anxiety Inventory for Children; Body Attitudes and Behaviours Scale for Children: BI-Avoid = Body Image Avoidance, BI-Selfcons = Body Image Self-Consciousness; BI- Sal = Body Image Salience, SRB = Size Reduction Behaviours; SIB = Size Increase Behaviours; PWB = Psychological Well-Being.

Table 5.4

Descriptive Statistics for Later Grade Students (Grades 10 to 12).

Measure	# of items	Possible Range	Mean	Mode	SD
BC-Family	3	0 to 28	2.28	0	3.68
BC-Peers	2	0 to 18	2.66	0	3.32
BCS	8	0 to 99	5.12	0	6.79
M.E.S.	6	0 to 220	33.52	28	23.20
SA-Aware	10	10 to 50	27.64	26	5.29
SA-Internal	9	9 to 45	26.34	24	8.91
S.O.P.	6	6 to 42	28.67	34	7.46
S.P.P.	6	6 to 42	14.78	12	6.84
BILIN	8	-24 to +24	1.77	0	5.18
BIABS	8	0 to 24	5.29	2	4.06
RSES-C	10	10 to 70	53.10	70	11.74
DSRS	18	0 to 36	9.02	6	5.68
STAI-C	20	20 to 80	41.74	40	9.71
BI-Avoid	7	7 to 49	18.88	13	8.52
BI-Selfcons	3	3 to 21	10.16	9	4.14
BI-Salience	4	4 to 28	18.12	22	5.77
SRB	4	4 to 28	11.13	4	5.84
SIB	4	4 to 28	8.52	4	5.37
PWB	48	16 to 166	118.35	131	24.35

Notes. *n*= 1218. 13 students did not indicate grade.BC Family and BC Peer are subscales of the Body Criticism Scale; BCS = Body Criticism Scale total score; MES = Media Exposure Scale; SA-Aware = Sociocultural Appearance Attitudes Survey for Children-Awareness Factor; SA-Internal = Sociocultural Appearance Attitudes Survey for Children- Internalization Factor; SOP = Perfectionism Scale for Children - Self-Oriented Perfectionism; SPP = Perfectionism Scale for Children - Socially-Prescribed Perfectionism. BILIN = Body Image Perceptions Scale- linear total; BIABS = Body Image Perceptions Scale-absolute total; RSES-C = Rosenberg Self-Esteem Scale for Children; DSRS = Depression Self-Rating Scale; STAIC = State Trait Anxiety Inventory for Children; Body Attitudes and Behaviours Scale for Children: BI-Avoid = Body Image Avoidance, BI-Selfcons = Body Image Self-Consciousness; BI- Sal = Body Image Salience, SRB = Size Reduction Behaviours; SIB = Size Increase Behaviours; PWB = Psychological Well-Being.

Table 6

Bivariate Correlations of Psychological Well-Being Measures for Male and Female Students.

Measure	Self-Esteem	Depression	Anxiety	Psychological Well-Being
Self-Esteem	--	-.68**	-.56**	.89**
(RSES-C)		(-.72**)	(-.65**)	(.91**)
Depression		--	.67**	-.86**
(DSRS)			(.76**)	(-.88**)
Anxiety			--	-.86**
(STAI-C)				(-.89**)

Note. Males: $n = 1181$, Females: $n = 1125$; Correlations for females are in parentheses.

*$p < .01$ **$p < .001$.

Table 7

Eigenvalues for the Varimax Rotation Factor Analysis of the Body Attitudes and Behaviours Scale for Children.

	Eigenvalues		
Factors	Total	% of Variance	Cumulative %
1	6.16	25.66	25.66
2	2.79	11.63	37.28
3	2.62	10.93	48.21
4	1.67	4.87	53.08
5	1.02	4.26	57.34

Note. Factor 1 = Body Salience; Factor 2 = Size Reduction Behaviours; Factor 3 = Size Increase Behaviours; Factor 4 = Body Self-Consciousness; Factor 5 = Social Avoidance.

Table 8.1

Item Loadings for Factors of the Body Attitudes and Behaviours Scale for Children.

	Varimax Rotation of Factor Loadings				
Items	*Factor 1*	*Factor 2*	*Factor 3*	*Factor 4*	*Factor 5*
BABS4	***0.62***	*0.15*	*-0.05*	*-0.14*	*0.16*
BABS19R	***0.73***	*-0.01*	*-0.04*	*0.16*	*0.01*
BABS2	***0.74***	*0.21*	*0.01*	*-0.05*	*0.24*
BABS21	***0.78***	*0.21*	*0.16*	*-0.04*	*0.06*
BABS6	*0.25*	***0.55***	*-0.36*	*0.28*	*0.28*
BABS23	*0.36*	***0.55***	*-0.25*	*0.11*	*0.06*
BABS7	*0.37*	***0.56***	*-0.33*	*0.09*	*0.18*
BABS11	*0.34*	***0.56***	*-0.23*	*-0.20*	*0.07*
BABS3	*-0.14*	***0.48***	*0.09*	*0.33*	*0.06*
BABS13	*0.22*	***0.51***	*-0.04*	*0.13*	*0.22*
BABS9	*-0.01*	***0.52***	*0.06*	*0.32*	*0.29*
BABS8	*-0.04*	***0.63***	*0.15*	*0.20*	*0.11*
BABS20	*0.03*	*0.09*	***0.69***	*-0.15*	*-0.20*
BABS17	*-0.03*	*-0.16*	***0.78***	*0.03*	*0.10*
BABS24	*0.08*	*0.00*	***0.78***	*0.02*	*-0.04*
BABS18	*-0.01*	*-0.09*	***0.86***	*-0.01*	*0.03*
BABS5R	*0.23*	*0.34*	*-0.07*	***0.67***	*0.29*
BABS22R	*0.10*	*0.32*	*-0.03*	***0.70***	*0.15*
BABS1R	*-0.08*	*0.20*	*-0.07*	***0.73***	*0.11*
BABS14	*0.23*	*0.39*	*-0.09*	*0.31*	***0.52***
BABS15	*0.09*	*0.18*	*-0.01*	*0.09*	***0.81***
BABS16	*0.05*	*0.25*	*-0.06*	*0.25*	***0.76***

Note. Factor 1 = Body Salience; Factor 2 = Size Reduction Behaviours; Factor 3 = Size Increase Behaviours; Factor 4 = Body Self-Consciousness; Factor 5 = Social Avoidance.

Table 8.2

Bivariate Correlations of BABS-C Factors for Male and Female Students.

Measure	BI-Avoid	BI-Selfcons	BI-Salience	SRB	SIB
BI-Avoid	--	.54**	.19**	.52**	.01
		(.65**)	(.35**)	(.56**)	(-.11**)
BI-Selfcons	.54**	--	.02	.32**	-.03
	(.65**)		(.29**)	(.48**)	(-.12**)
BI-Salience	.19**	.02	--	.32**	.18**
	(.35**)	(.29**)		(.56**)	(-.09**)
SRB	.52**	.32**	.32**	--	-.25**
	(.56**)	(.48**)	(.56**)		(-.33**)
SIB	.01	-.03	.18**	-.25**	
	(-.11**)	(-.12**)	(-.09**)	(-.33**)	--

Note. Males: $n = 1181$, Females: $n = 1125$; Correlations for females are in parentheses.

*$p < .01$, **$p < .001$.

Table 9

Distribution of Male and Female Students in Each Body Image Group.

BI Group	*Male students*	*(n)*	*Female students*	*(n)*
too small	*40.2%*	*(475)*	*21.6%*	*(243)*
just right	*22.8%*	*(269)*	*11.5%*	*(129)*
too big	*37.4%*	*(437)*	*66.9%*	*(753)*
Total :	*100%*	*(1181)*	*100%*	*1125*

Note. n = number of students; BI Group score is based on BIPS-C linear scores.

Table 10

Mean Scores for the Between Subjects Analysis of Variance Separated by Gender and Grade Group.

	Early Grades n = 1075		Later Grades n = 1218	
Measure	Male n = 541 M (SD)	Female n = 534 M (SD)	Male n = 629 M (SD)	Female n = 589 M (SD)
BILIN	0.72 (4.18)	1.86 (4.62)	-0.27 (4.6)	3.93 (4.84)
BIABS	3.41 (3.79)	4.85 (3.62)	4.24 (3.77)	6.41 (4.06)
MES	40.04 (26.51)	34.79 (24.30)	36.60 (26.10)	30.22 (19.13)
SA-Aware	26.57 (5.69)	25.43 (5.86)	27.74 (4.98)	27.53 (5.61)
SA-Intern	20.15 (7.16)	23.68 (9.12)	23.91 (7.77)	28.93 (9.31)
BC-Family	1.88 (3.21)	1.95 (3.16)	2.41 (4.25)	2.14 (2.95)
BC-Peer	2.32 (3.00)	2.32 (2.67)	2.93 (3.71)	2.36 (2.81)
BCS	4.38 (5.61)	4.38 (5.16)	5.63 (8.11)	4.59 (4.97)
SOP	28.03 (7.55)	26.49 (7.02)	28.61 (7.29)	28.75 (7.64)
SPP	13.62 (6.44)	13.46 (6.58)	14.93 (6.51)	14.62 (7.19)
PWB	127.51(20.46)	120.74 (24.12)	122.49 (23.54)	113.94 (24.44)

Note. n = number of students.

Table 11

Analysis of Variance for Between Subject Effects on the Body Image Perception Scale for Children Scores.

	Source	*df*	*F*	*p*	η^2	R^2
BILIN	Gender	(1, 2289)	196.11	<.001	0.10	0.11
	Grade		8.39	.004	.004	
	Gender X Grade		65.04	<.001	.028	
BIABS	Gender	(1, 2289)	127.32	<.001	0.10	0.077
	Grade		56.35	<.001	0.02	
	Gender X Grade		5.25	.020	0.002	

Note. Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); BILIN = Body Image Perceptions Scale- linear total; BIABS = Body Image Perceptions Scale-absolute total.

Table 12

Cell Sizes for the Chi-square Analyses of Body Image Groups.

Gender	Body Image Group	Grade	*n*	χ^2	*df*	*p*
Male	too small	5 to 9	178	28.51	1	0.001
		10 to 12	294			
	just right	5 to 9	143	1.35	1	0.25
		10 to 12	124			
	too big	5 to 9	220	0.19	1	0.66
		10 to 12	211			
	BI Group total	5 to 9	541			
		10 to 12	629			
Female	too small	5 to 9	141	6.98	1	0.008
		10 to 12	100			
	just right	5 to 9	78	5.65	1	0.017
		10 to 12	51			
	too big	5 to 9	315	20.09	1	0.001
		10 to 12	438			
	BI Group Total	5 to 9	534			
		10 to 12	589			

Note. n = number of students.

Table 13

Analysis of Variance for Between Subject Effects on the Media and Sociocultural Attitudes Scale Scores.

Source		*df*	*F*	*p*	η^2	R^2
MES	*Gender*	*(1, 2289)*	*33.06*	*< .001*	*.014*	*0.021*
	Grade		*15.65*	*< .001*	*.007*	
	Gender X Grade		*0.31*	*.578*	*.000*	
SA-Aware	*Gender*	*(1, 2289)*	*8.49*	*.004*	*.004*	*0.03*
	Grade		*49.74*	*< .001*	*.021*	
	Gender X Grade		*4.11*	*.043*	*.002*	
SA-Intern	*Gender*	*(1, 2289)*	*148.23*	*< .001*	*.061*	*0.121*
	Grade		*164.98*	*< .001*	*.067*	
	Gender X Grade		*4.55*	*0.033*	*.002*	

Note. Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); MES is the Media Exposure Scale; SA-Aware is the Sociocultural Attitudes Towards Appearance Scale - Awareness subscale score; SA-Intern is the Sociocultural Attitudes Towards Appearance Scale - Internalization subscale score.

Table 14

Analysis of Variance for Between Subject Effects on the Body Focussed Criticism Scale Scores.

Source		*df*	*F*	*p*	η^2	R^2
BC Family	Gender	(1, 2289)	0.50	.48	.000	.004
	Grade		6.19	.013	.003	
	Gender X Grade		1.44	.23	.001	
BC Peer	Gender	(1, 2289)	4.94	.03	.002	.007
	Grade		6.48	.01	.003	
	Gender X Grade		4.77	.03	.002	
BCS (total)	Gender	(1, 2289)	4.01	.450	.002	.007
	Grade		7.94	.005	.003	
	Gender X Grade		4.09	.043	.002	

Note. Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); BC Family is the Body Focussed Criticism Scale- Family subscale score; BC Peer is the Body Focussed Criticism Scale- Peer subscale score; BCS is the Body Focussed Criticism Scale total score.

Table 15

Analysis of Variance for Between Subject Effects on the Perfectionism Scale for Children Scale Scores.

Source		*df*	*F*	*p*	η^2	R^2
SOP	*Gender*	*(1, 2289)*	*5.14*	*.023*	*.002*	*0.014*
	Grade		*21.07*	*<.001*	*.009*	
	Gender X Grade		*7.40*	*.007*	*.003*	
SPP	*Gender*	*(1, 2289)*	*0.74*	*.390*	*<.001*	*0.009*
	Grade		*19.35*	*<.001*	*.008*	
	Gender X Grade		*0.06*	*.801*	*<.001*	

Note. Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); SOP = Perfectionism Scale for Children - Self-Oriented Perfectionism; SPP = Perfectionism Scale for Children - Socially-Prescribed Perfectionism.

Table 16

Analysis of Variance for Between Subject Effects on the Psychological Well-Being Factor Scale Scores.

Source		*df*	*F*	*p*	η^2	R^2
PWB	Gender	(1, 2289)	62.04	<.001	.026	0.042
	Grade		36.97	<.001	.016	
	Gender X Grade		0.84	0.36	.000	

Note. Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); PWB = composite index of Psychological Well-Being.

Table 17

Analysis of Variance for Between Subject Effects on the Body Attitudes and Behaviours Sub-scale Scores.

Source		*df*	*F*	*p*	η^2	R^2
BI-Avoid	Gender	(1, 2289)	73.59	<.001	.031	0.041
	Grade		19.73	<.001	.009	
	Gender X Grade		3.99	.046	.002	
BI-SelfCons	Gender	(1, 2289)	49.50	<.001	.021	0.034
	Grade		28.83	<.001	.012	
	Gender X Grade		1.38	.241	.001	
BI-Salience	Gender	(1, 2289)	88.09	<.001	.037	0.060
	Grade		41.89	<.001	.018	
	Gender X Grade		5.54	.019	.002	
SRB	Gender	(1, 2289)	229.23	<.001	.091	0.119
	Grade		29.69	<.001	.013	
	Gender X Grade		41.62	<.001	.018	
SIB	Gender	(1, 2289)	318.26	<.001	.122	0.156
	Grade		19.91	<.001	.009	
	Gender X Grade		62.83	<.001	.027	

Note. Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); Body Attitudes and Behaviours Scale for Children subscales: BI-Avoid = Body Image Avoidance, BI-SelfCons = Body Image Self-Consciousness; BI- Sal = Body Image Salience, SRB = Size Reduction Behaviours; SIB = Size Increase Behaviours.

Table 18

Mean Scores of BABS-C Subscale Scores for Male and Female Students in Each Body Image Group.

	Body Image Group		
	too small	just right	too big
BABS-C subscale	M (SD)	M (SD)	M (SD)
BI-Avoid			
male	15.51 (6.60)	13.60 (5.16)	20.20 (8.63)
female	16.61 (6.96)	14.96 (5.93)	21.46 (8.33)
BI-Selfcons			
male	8.99 (3.73)	7.63 (3.28)	10.24 (4.19)
female	9.18 (3.90)	7.27 (3.01)	11.26 (4.22)
BI-Salience			
male	16.65 (5.65)	14.08 (6.24)	17.24 (5.63)
female	17.35 (5.78)	15.34 (6.24)	19.52 (5.45)
SRB			
male	6.74 (3.22)	7.34 (3.44)	12.22 (5.18)
female	8.09 (4.26)	8.17 (4.40)	14.42 (5.49)
SIB			
male	12.87 (5.68)	8.43 (4.60)	7.32 (3.82)
female	9.60 (5.24)	6.50 (3.38)	5.18 (2.18)

Note. BI Group (Body Image Group: too small, just right, or too big); Standard deviations are in parentheses. Male students in 'too small' body image group $n = 475$, in 'just right' body image group n = 269, in 'too large' body image group $n = 437$. Female students in 'too small' body image group $n = 243$, in 'just right' body image group $n = 129$, in 'too large' body image group $n = 753$.

Table 19

Analysis of Variance for Between Subject Effects on the BABS-C Size Reduction and Size Increase Behaviours.

	Source	*df*	*F*	*p*	η^2	R^2
SRB	Gender	(1, 2289)	43.44	<.001	.001	0.342
	Grade		19.22	<.001	.001	
	BI Group		379.67	<.001	.250	
	Gender*Grade		9.67	0.002	.004	
	Gender*BI Group		2.05	0.129	.002	
	Grade*BI Group		0.063	0.939	.000	
	Gender*Grade*BI Group		0.742	0.479	.001	
SIB	Gender	(1, 2289)	134.41	<.001	0.1	0.338
	Grade		17.2	<.001	0	
	BI Group		275.77	<.001	.195	
	Gender*Grade		17.48	<.001	.008	
	Gender*BI Group		2.00	0.135	.002	
	Grade*BI Group		3.71	0.025	.003	
	Gender*Grade*BI Group		1.26	0.285	.001	

Note. BI Group (Body Image Group: too small, just right, or too big); Gender (Male or Female students); Grade (Grade Level: Grades 5 to 9 or Grades 10 to 12); Body Attitudes and Behaviours Scale for Children subscales: SRB = Size Reduction Behaviours; SIB = Size Increase Behaviours.

Table 20

Mean Scores on Size Reduction Behaviours as a Function of Gender, Grade Group, and Body Image Group.

	Size Reduction Behaviours			
	Early Grades		Later Grades	
BI Group	Male M (SD)	Female M (SD)	Male M (SD)	Female M (SD)
too small	6.8 (2.9)	7.3 (3.8)	6.7 (3.4)	9.3 (4.6)
just right	7.0 (3.3)	7.6 (4.2)	7.7 (3.6)	9.0 (4.6)
too big	12.2 (5.2)	13.5 (5.4)	12.3 (5.1)	15.1 (5.4)
	Numbers of Students in Each Group			
	Early Grades = 1075		Later Grades = 1218	
	Male = 541	Female = 534	Male = 629	Female = 589
too small	178	141	294	100
just right	143	78	124	51
too big	220	315	211	438

Note. Higher scores indicate higher endorsement of size reduction behaviours.

Table 21

Mean Scores on Size Increase Behaviours as a Function of Gender, Grade Group, and Body Image Group.

	Size Increase Behaviours			
	Early Grades		Later Grades	
	Male M (SD)	Female M (SD)	Male M (SD)	Female M (SD)
too small	11.2 (5.4)	9.6 (5.1)	13.9 (5.6)	9.7 (5.5)
just right	7.8 (4.2)	6.4 (3.4)	9.2 (4.9)	6.6 (3.4)
too big	6.9 (3.7)	5.4 (2.3)	7.8 (3.9)	5.0 (2.1)
	Number of Students in Each Group			
	Early Grades = 1075		Later Grades = 1218	
	Male = 541	Female = 534	Male = 629	Female = 589
too small	178	141	294	100
just right	143	78	124	51
too big	220	315	211	438

Note. Higher scores indicate higher endorsement of size increase behaviours.

Table 22

Predicting Body Image Discrepancy (BIABS) for Male and Female Students.

Predictors	*Step 1*			*Step 2*		
	B	*β*	*SE*	*B*	*β*	*SE*
Male students						
Grade	*0.201*	*.102***	*0.057*	*-0.005*	*-0.003*	*0.051*
BCS				*0.153*	*.285***	*0.014*
SA-Intern				*0.121*	*.246***	*0.013*
SPP				*0.136*	*.233***	*0.016*
SOP				*-0.04*	*-.078**	*0.013*
R^2		*.010***			*.286***	
Female students						
Grade	*0.489*	*.229***	*0.062*	*0.176*	*.082**	*0.055*
BCS				*0.056*	*.072**	*0.021*
SA-Intern				*0.133*	*.323***	*0.014*
SPP				*0.092*	*.162***	*0.017*
SA-Aware				*0.088*	*.130***	*0.023*
R^2		*.052***			*.324***	

Note. Stepping method criteria set at $p < .01$ for entry and $p > .05$ for removal. * $p < .01$, ** $p < .001$.

Table 23

Predicting Psychological Well-Being for Male and Female Students.

Predictors	*Step 1*			*Step 2*			*Step 3*		
	B	*β*	*SE*	*B*	*β*	*SE*	*B*	*β*	*SE*
Male students									
Grade	-1.092	-.094*	.336	-0.175	-.015 n.s.	.248	-.049	-.004 n.s.	.240
SPP				-2.041	-.596**	.077	-1.843	-.539**	.078
BCS				-0.616	-.196**	.070	-.412	-.131**	.072
BIABS							-1.22	-.208**	.138
R^2		.009*			.470**			.503**	
Female students									
Grade	-2.37	-.168**	.392	-.427	-.032 n.s.	.282	-.168	-.013 n.s.	.271
SPP				-1.891	-.534**	.085	-1.756	-.496**	.083
BCS				-.551	-.114**	.108	-.469	-.097**	.104
SA-Intern				-.383	-.150**	.071	-.188	-.074*	.071
SA-Aware				-.469	-.111**	.118	-.340	-.081*	.114
BIABS							-1.47	-.236**	.147
R^2		.028*			.544**			.581**	

Note. Stepping method criteria set at $p < .01$ for entry and $p > .05$ for removal. * $p < .01$, ** $p < .001$.

Table 24

Predicting Social Avoidance for Male and Female Students.

Predictors	*Step 1*			*Step 2*			*Step 3*		
	B	*β*	*SE*	*B*	*β*	*SE*	*B*	*β*	*SE*
Male students									
Grade	---	---	---	---	---	---	---	---	---
SPP				.385	.328**	.033	.277	.236**	.031
SA-Intern				.158	.160**	.027	.065	.066*	.025
BCS				.168	.155**	.029	.039	.037 n.s.	.028
BIABS							.829	.412**	.056
R^2		n.s.			.230**			.352**	
Female students									
Grade	.655	.147**	.132	.060	.013 n.s.	.117	-.109	-.024 n.s.	.105
SPP				.331	.279**	.034	.229	.193**	.031
SA-Intern				.191	.223**	.030	.064	.074 n.s.	.027
SA-Aware				.232	.164**	.049	.140	.099*	.044
BIABS							.966	.462**	.051
R^2		.021**			.295**			.440**	

Note. Stepping method criteria set at $p < .01$ for entry and $p > .05$ for removal. * $p < .01$, ** $p < .001$. n.s. = not significant.

Table 25

Predicting Self-Consciousness for Male and Female Students.

Predictors	*Step 1*			*Step 2*			*Step 3*		
	B	*β*	*SE*	*B*	*β*	*SE*	*B*	*β*	*SE*
Male students									
Grade	.190	.093**	.059	.114	.055 n.s.	.055	.065	.032 n.s.	.051
SOP				.077	.145**	.014	.070	.131**	.013
SPP				.237	.391**	.017	.147	.242**	.016
BIABS							.407	.392**	.028
R^2		.009*			.165**			.294**	
Female students									
Grade	.365	.158**	.068	.100	.194**	.068	.005	.002 n.s.	.056
SOP				.045	.078*	.016	.032	.055 n.s.	.014
SPP				.167	.272**	.018	.110	.178**	.017
SA-Aware				.110	.150**	.027	.056	.077 n.s.	.024
SA-Intern				.102	.229**	.016	.031	.070 n.s.	.015
MES				-.043	-.083*	.014	-.039	-.075*	.012
BIABS							.522	.482**	.030
R^2		.025**			.255**			.413**	

Note. Stepping method criteria set at $p < .01$ for entry and $p > .05$ for removal. * $p < .01$, ** $p < .001$. *n.s.* = not significant.

Table 26

Predicting Salience of Body Image for Male and Female Students.

Predictors	*Step 1*			*Step 2*			*Step 3*		
	B	*β*	*SE*	*B*	*β*	*SE*	*B*	*β*	*SE*
Male students									
Grade	.243	.079*	.089	-.154	-.050 n.s	.078	-.158	-.051 n.s	.078
SA-Intern				.292	.382**	.024	.275	.360**	.024
SA-Aware				.179	.158**	.029	.166	.150**	.033
SOP				.130	.163**	.020	.133	.167**	.020
MES				.015	.066*	.006	.014	.060 n.s	.066
BIABS							.116	.075*	.041
R^2		.006n.s			.308**			.313**	
Female students									
Grade	.723	.229**	.092	.051	.016 n.s	.070	--	--	--
SA-Intern				.366	.604**	.017	--	--	--
SA-Aware				.099	.099*	.029	--	--	--
SOP				.063	.081**	.018	--	--	--
BIABS							--	--	--
R^2		.053**			.501**			--	

Note. Stepping method criteria set at $p < .01$ for entry and $p > .05$ for removal. For this analysis the regression is through the origin (no intercept model). * $p < .01$, ** $p < .001$. *n.s.* = not significant.

Figure Captions

Figure 1 Distribution of Body Image (BILIN) Groups for the Males and Females Students.

Figure 2 Distribution of Body Image (BILIN) Groups Across Grades for Male Students.

Figure 3 Distribution of Body Image (BILIN) Groups Across Grades for Female Students.

Figure 4 Distribution of Body Image Scores (BILIN) Across Grades for Males.

Figure 5 Distribution of Body Image Scores (BILIN) Across Grades for Females

Figure 6 A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Body Confidence Across Grades.

Figure 7 A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Body Salience Across Grades.

Figure 8 A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Size Increase Behaviours Across Grades.

Figure 9 A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Size Decrease Behaviours Across Grades.

Figure 10 A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Body Avoidance Across Grades.

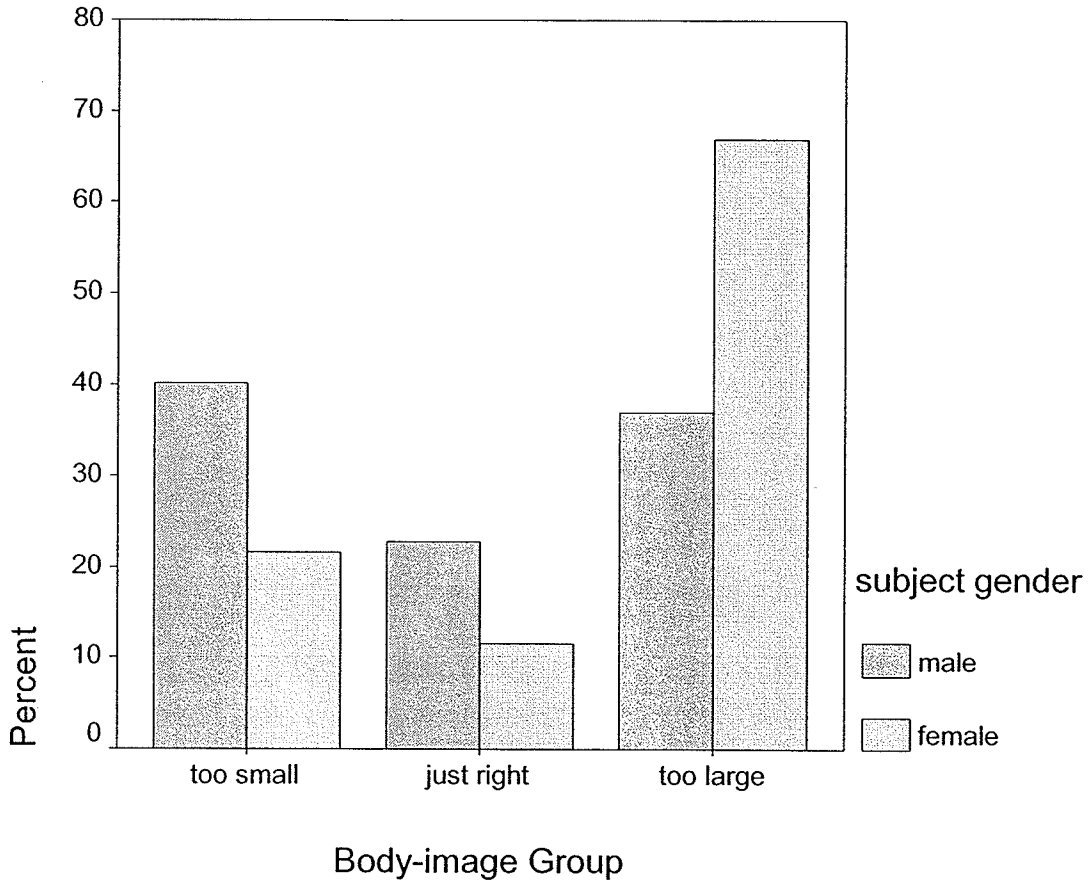

Figure 1. Distribution of Body Image Discrepancy (BILIN) Groups for Male and Female Students.

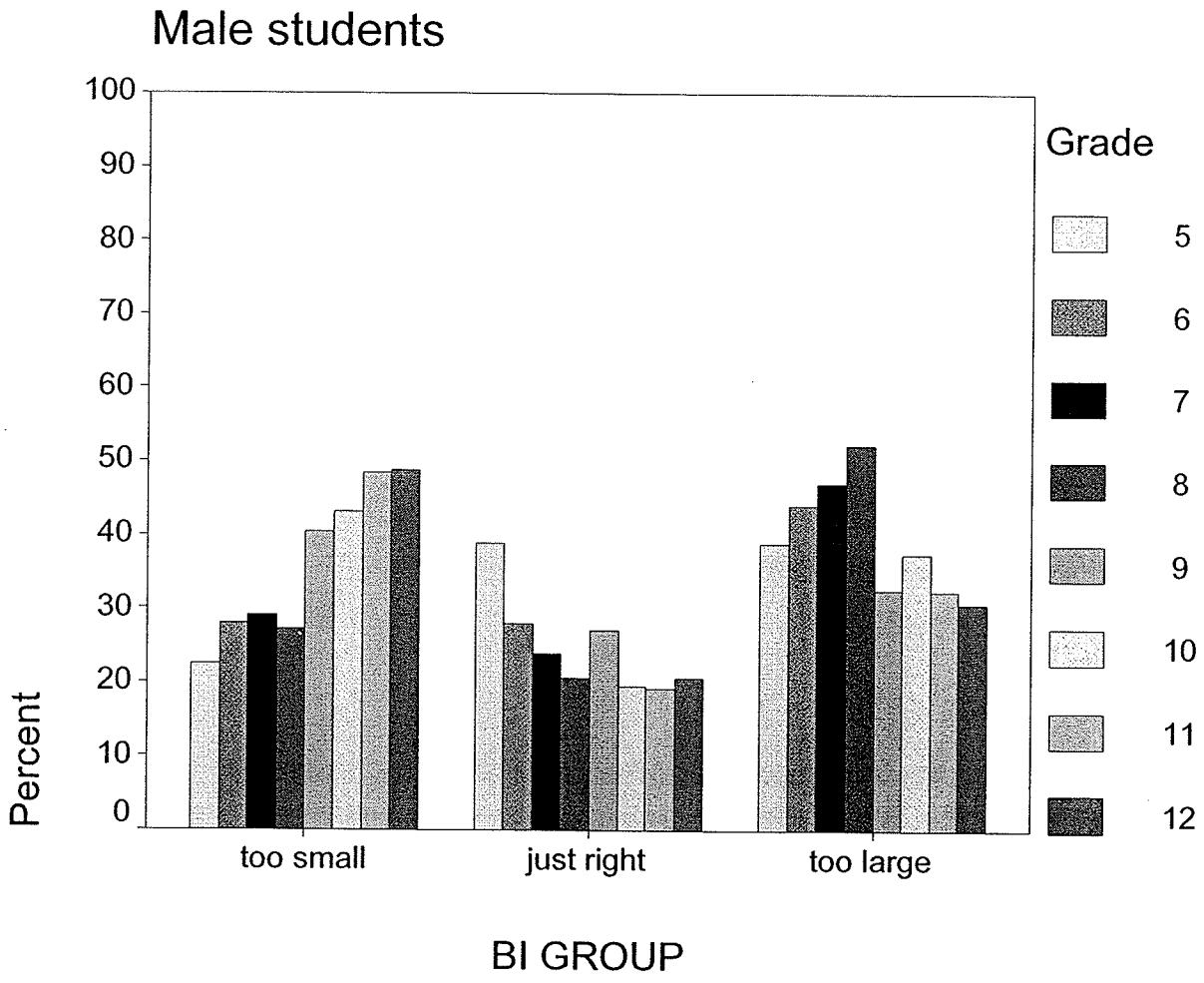

Figure 2. Distribution of Body Image Discrepancy (BILIN) Groups Across the Grades for Male Students.

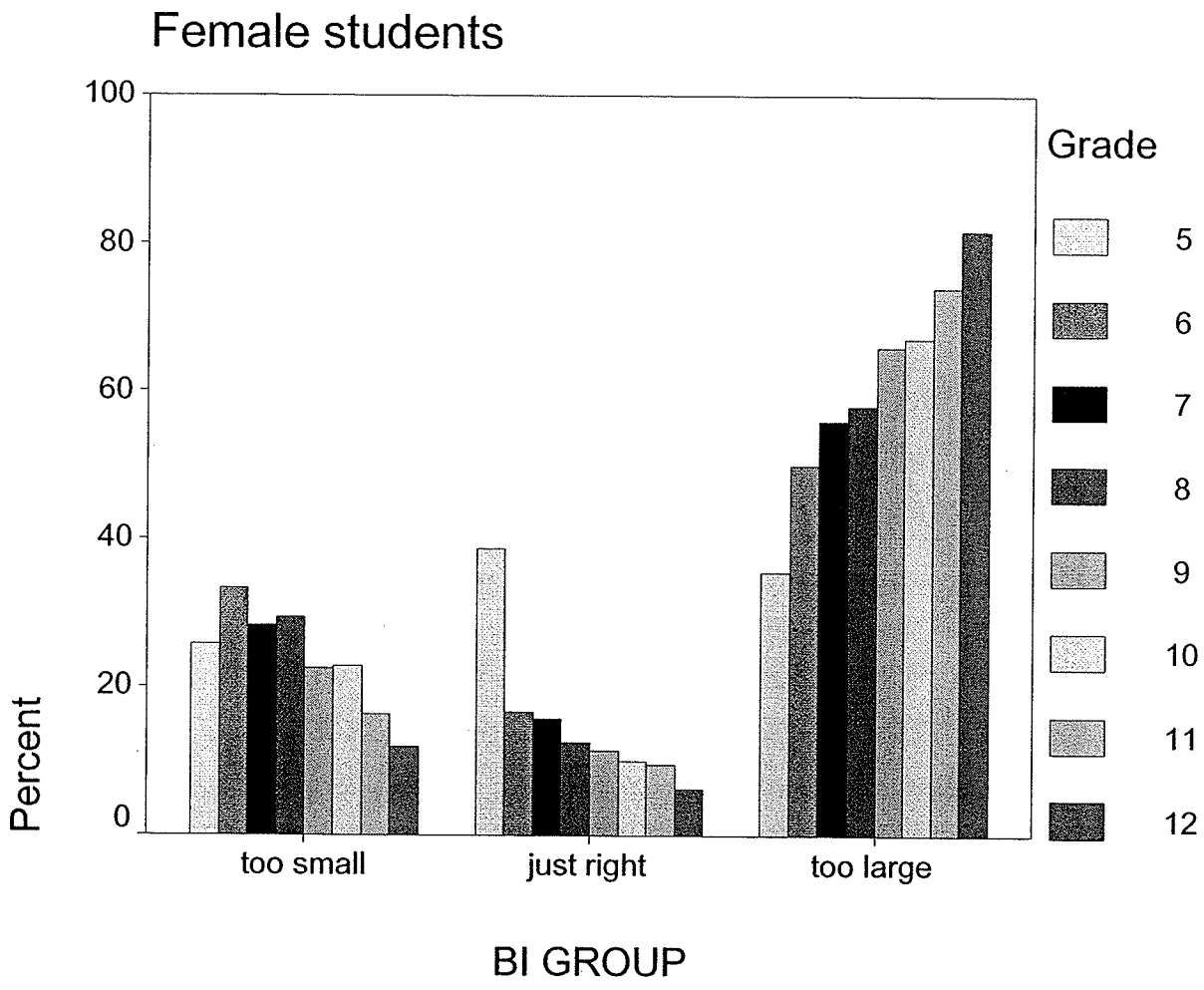

Figure 3. Distribution of Body Image Discrepancy (BILIN) Groups Across the Grades for Female Students.

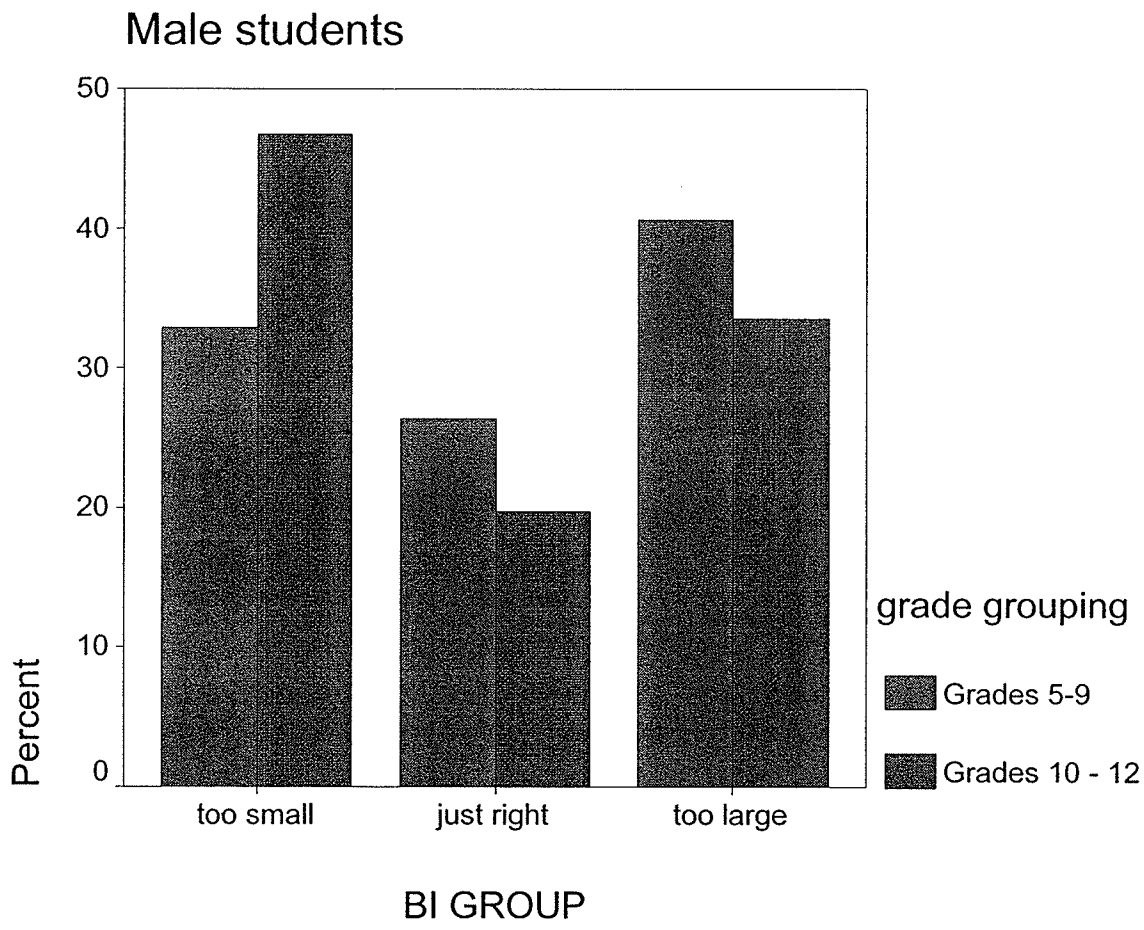

Figure 4. Distribution of Body Image Discrepancy (BILIN) Groups Across the Grade Groups (Early:Later) for Male Students.

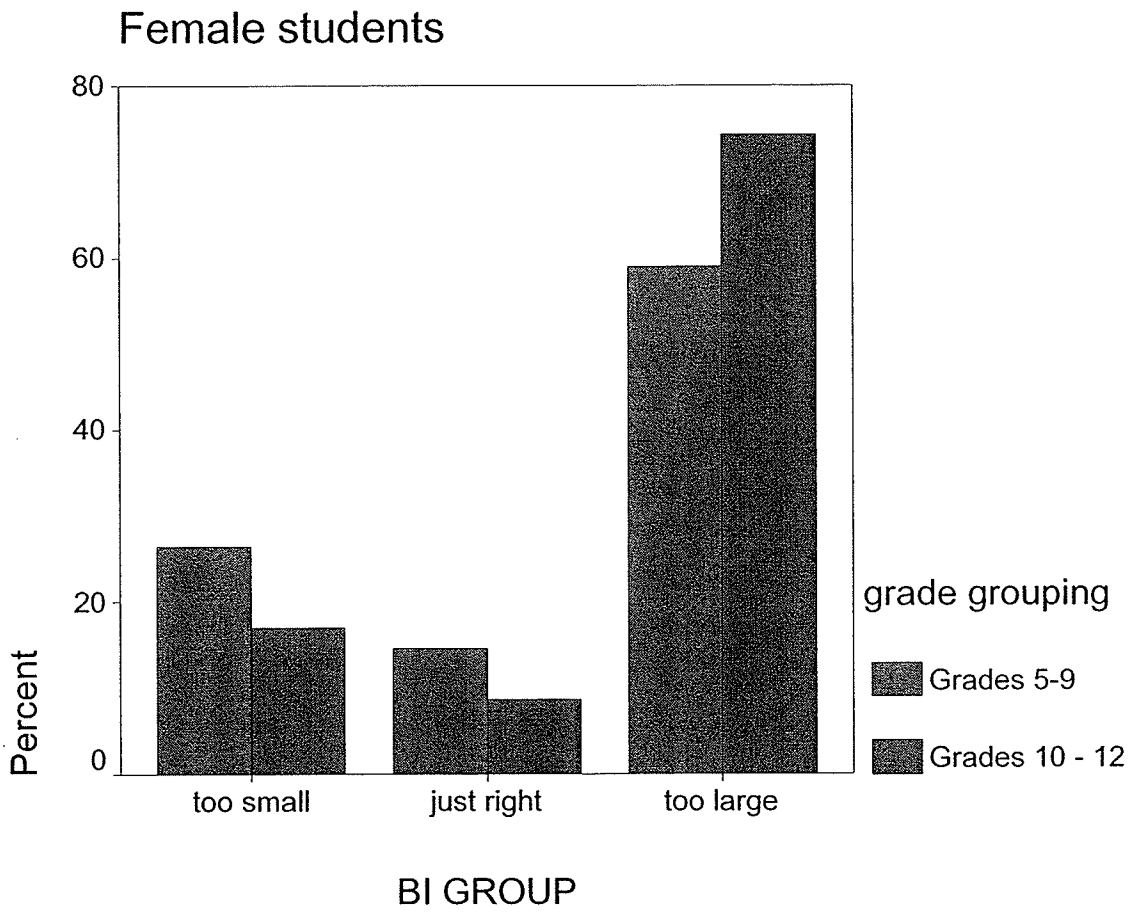

Figure 5. Distribution of Body Image Discrepancy (BILIN) Groups Across the Grade Groups (Early:Later) for Female Students.

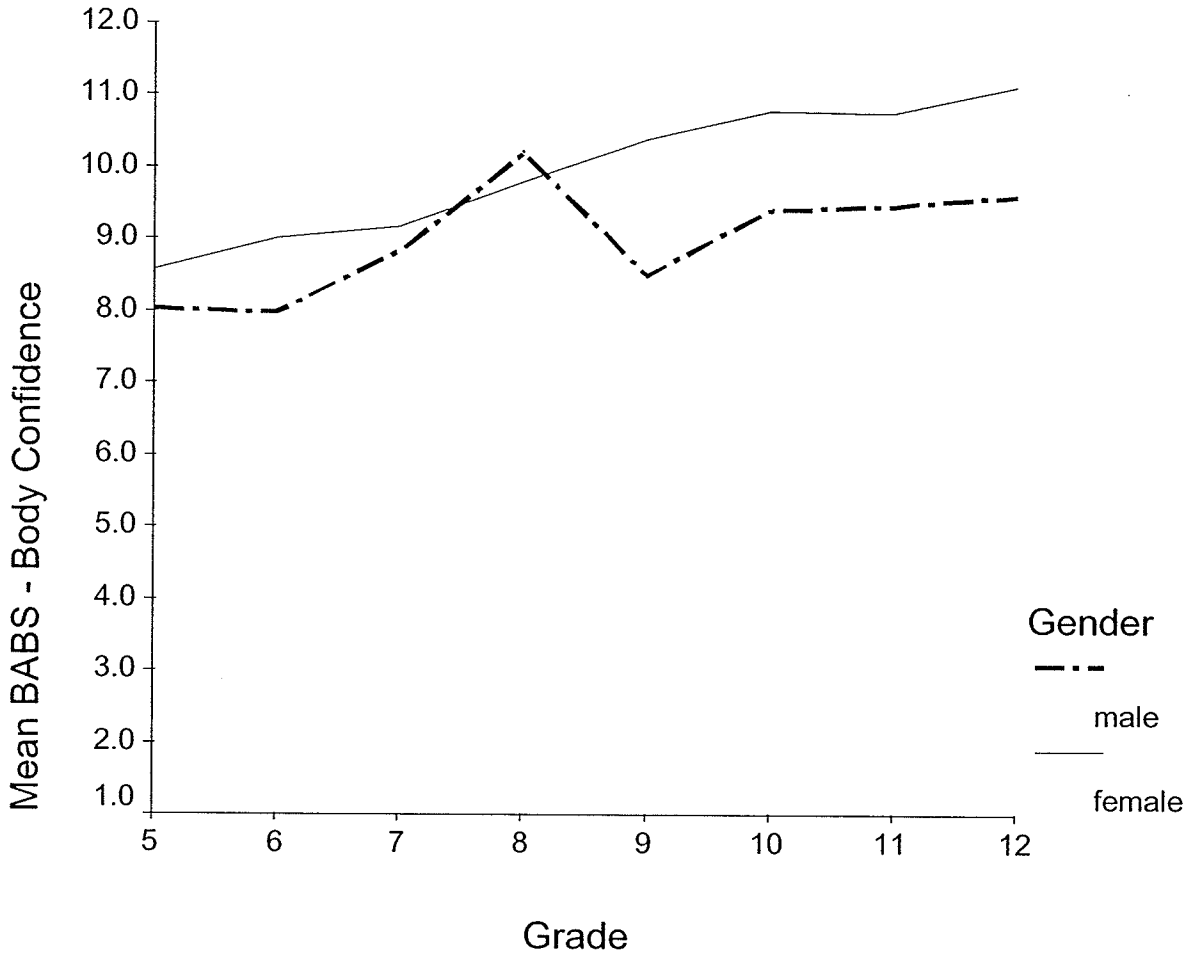

Figure 6. A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Body Self-consciousness Across Grades.

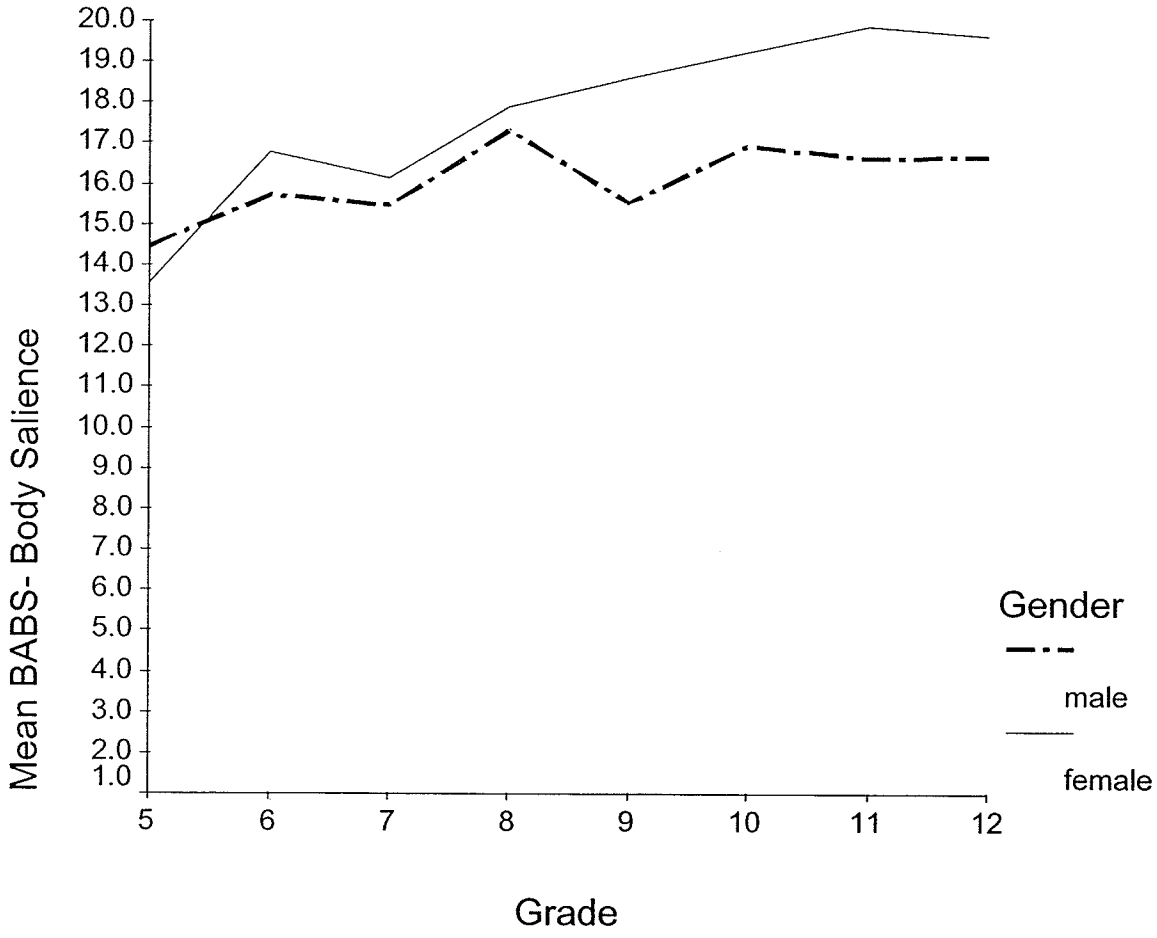

Figure 7. A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Body Salience Across Grades.

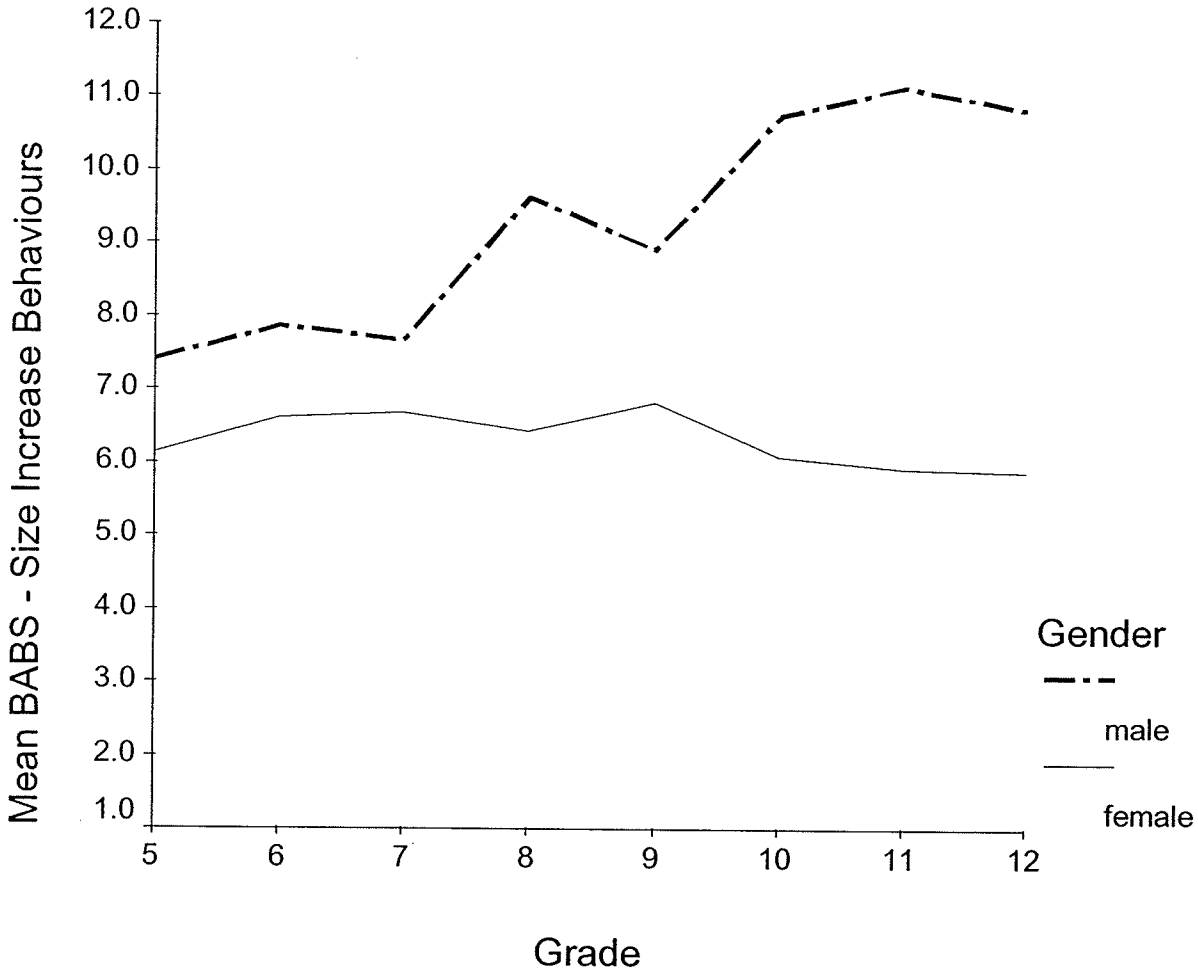

Figure 8. A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Size Increase Behaviours Across Grades.

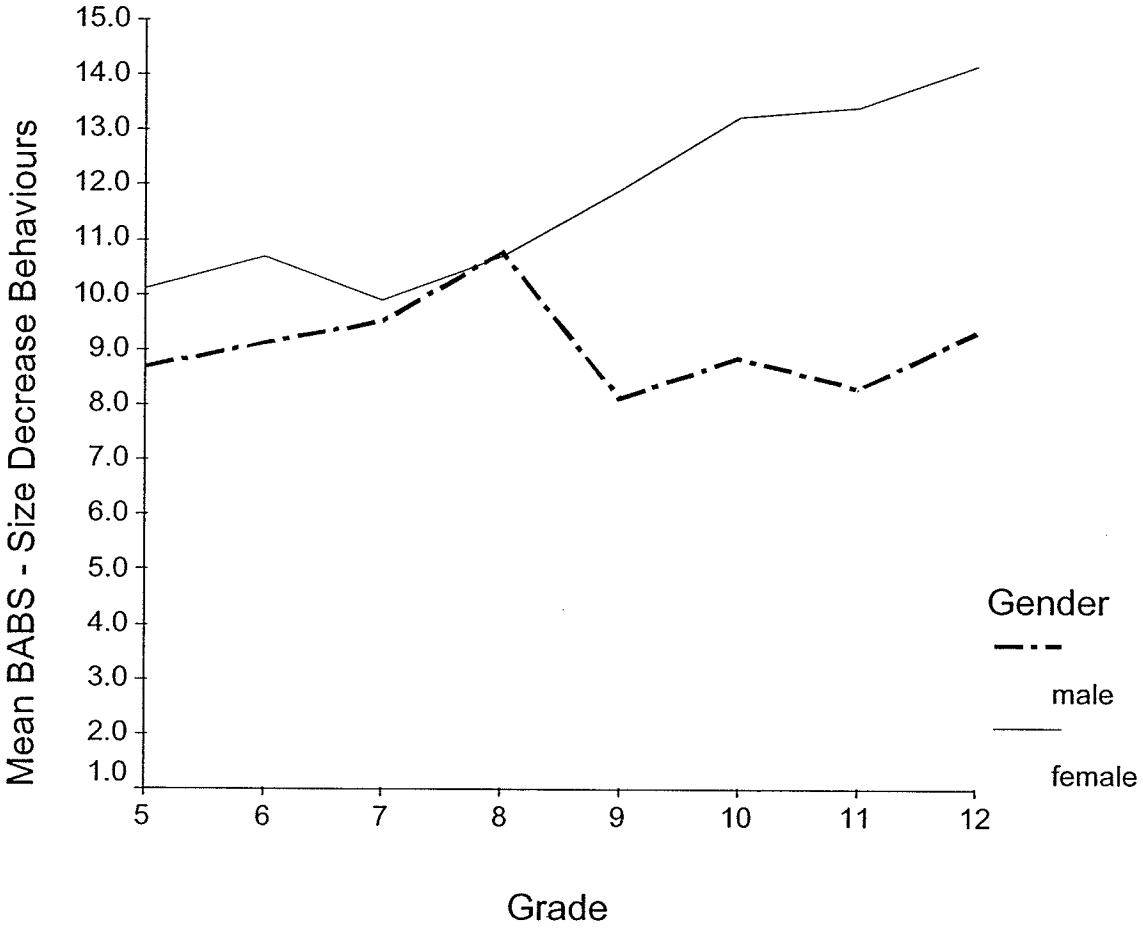

Figure 9. A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Size Reduction Behaviours Across Grades.

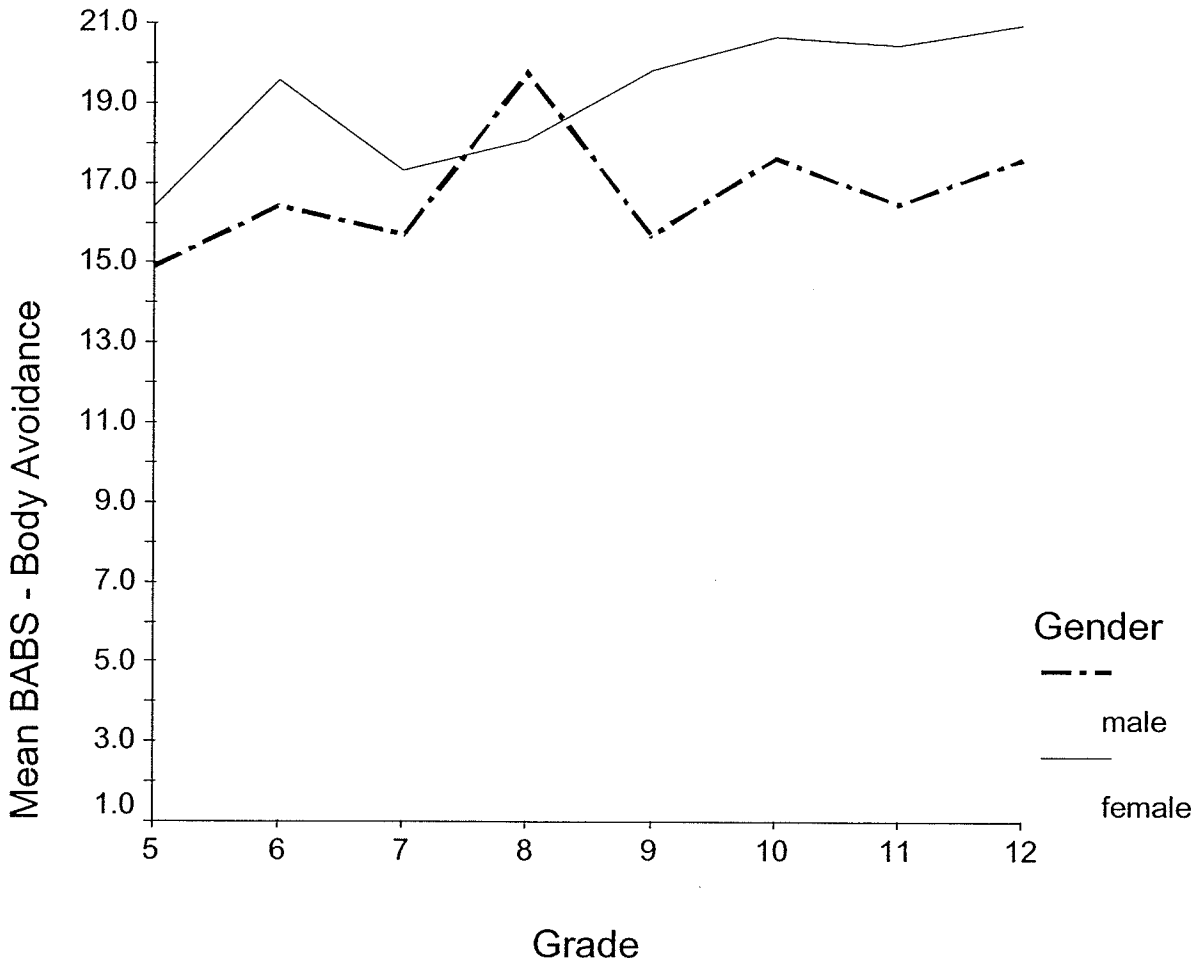

Figure 10. A Comparison of Male and Female Mean Scores for the Body Attitudes and Behaviours Scale - Body Avoidance Across Grades.