Children’s Body Image and Sociocultural Influences

by

Gemma Tatangelo
B.A. (Psych), Grad Dip (Psych)

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ABSTRACT

In recent years, there has been a vast increase in research examining children’s body image concerns, and studies are showing that both girls and boys are experiencing body dissatisfaction. This finding is unsurprising given that children today are growing up with an unprecedented barrage of visual images and messages related to their physical appearance and body shape. Researchers agree that like adults and adolescents, children are highly vulnerable to such societal messages regarding appearance ideals. While there has been a wide expansion of children’s body image research in recent years, previous studies have been limited in several ways. Firstly, previous research has largely focused on preadolescent girls based on an assumption that boys are less likely to experience body concerns. Contrary to this view, preadolescent boys have been shown to experience body dissatisfaction, almost at the same level as found among preadolescent girls. A second key limitation is that previous researchers have predominantly used questionnaire designs, often with scales which were not developed for use with children. These methods are limited in several ways. For example, children may misunderstand the questions, they may not be able to fully access the constructs being investigated, or the questions may not accurately relate to children’s everyday experiences of the construct under enquiry. Finally, while sociocultural factors have been examined in isolation, the relationships between these factors and application to theoretical models of sociocultural influence, remains relatively unexamined, particularly for boys. This thesis was designed to address these shortcomings. The overall aim of this thesis was to better understand the relationships between media and peer factors and children’s body image while exploring several key sociocultural dimensions including the internalisation of body ideals, social comparisons and traditional gender ideals.
The aim of Study 1 was to extend the current understanding of preadolescent boys’ and girls’ body ideals, social comparisons and gender ideals by examining how these factors are shaped by media and peer influences. Given that there has been limited work in this area, particularly with preadolescent boys, qualitative methods were selected for this study. This allowed for more issues that are specifically relevant to the respondents to emerge from the data based on their own experiences. This allowed for specific issues relevant to preadolescent boys that have yet to be addressed to be identified and contrasted with issues raised by girls. Individual and focus group interviews were used, as the two methods may provide different, and complementary, information. Individual interviews provide a way to probe answers in more depth and ensure that individuals’ viewpoints are taken into account. This is especially important in the case of preadolescent boys as their voices have not yet been fully heard. Additionally, focus groups generate more interactive and naturalistic discussion that can lead participants to talk more freely and disclose more about their experiences. In particular, it was expected that focus groups would help to better understand differences in the lived experiences of boys and girls in terms of how they interact with their peers, interpret media messages, whilst demonstrating the underlying gender ideals and social comparison practices.

The participants of Study 1 were 68 children aged 8 to 10 who participated in semi-structured interviews: 19 boys and 17 girls in individual interviews and 16 boys and 16 girls in eight group interviews. Techniques from grounded theory were used to analyse the data. Findings demonstrated that fitness was an important element of boys’ and girls’ body ideals. For boys the emphasis was on sport, and this was promoted by their peer interactions and the sportsmen they admired. For girls the focus was on looking good, and this was reinforced by their peer conversations, and the actresses and singers they admired. In line with these findings, the results also
revealed that gender differences were evident in children’s social comparison tendencies. Appearance-related comparisons were more common among girls, whereas sports/ability-related comparisons were more common for boys. Outcomes associated with comparisons also differed by gender. Boys viewed media comparisons as inspiring, whereas girls reported negative emotions. Focus groups also highlighted how peers both reinforced media messages, yet also helped children critique media messages.

Study 1 also highlighted new themes in relation to children’s experiences of sociocultural factors which are not acknowledged or assessed by current measures. Therefore, utilising the major findings from Study 1, Study 2 was designed to adapt pre-existing measurement scales so that they would be more representative and relevant of preadolescent boys’ and girls’ experiences of sociocultural factors relating to their body image. Study 2 was also designed to examine the factor structures and reliability of both the existing and the adapted measures of body image and sociocultural influences, separately for preadolescent boys and girls. Finally, Study 2 was designed to extend and test sociocultural models of influence to explain children’s body esteem and body change strategies. Specifically, the Tripartite model was extended to include additional constructs which were found to be important in Study 1. Different models were proposed for preadolescent girls and boys based on major gender differences observed in Study 1. For boys, two additional constructs were incorporated as mediating variables; physical self-concept and masculine gender ideals. Feminine gender ideals were also incorporated as an additional mediating variable for girls.

The participants in Study 2 were 114 boys and 115 girls aged 8 to 10 years. Findings demonstrated some important gender differences in the underlying factor
structures of the new and modified scales. In contrast to previous research, body
image dimensions, such as muscularity and weight, were not differentiated into
separate factors in the factor analyses. Rather, a trend throughout the analyses was
that muscle, weight, fitness and appearance were generally best represented as a
single, overall factor. This trend was particularly evident among boys and is
consistent with the body ideal identified for boys in Study 1, which encompassed
weight and muscularity as indiscriminate features of a fit, strong, and not fat body
ideal.

The modified version of the boys’ internalisation scale was found to more
effectively tap into boys’ experiences of sociocultural influences. This measure was
representative of boys’ experiences as demonstrated by high frequencies of boys’
agreement for each of the items, and significant correlations between this measure
and body image variables and also sociocultural variables. On the other hand, it was
unclear whether children fully understood the simplified items on the social
comparison scale. Findings suggest that survey methods may not be amenable to
assessing social comparison behaviours among children. Finally, using path analysis,
the expanded Tripartite Models for girls and boys were found to be a good fit for the
data.

Several recommendations for future research are discussed. For young boys
in particular, further research is needed to further elucidate the complex relationship
between boys’ focus on sport, body ideals and their physical self-concept in relation
to their body image. Future studies are also needed to examine the relationship
between sociocultural factors and children’s body image concerns in terms of the
application to theoretical models. This will enhance the understanding of the
pathways of body image development, and how this differentially occurs for preadolescent girls and boys.

Importantly, this thesis has also highlighted several key messages in relation to the development of prevention programs. Primarily, this thesis has demonstrated that by the age of 8, boys and girls already have complex body ideals which are clearly shaped by their peer culture and gender ideals. Furthermore, the body ideals held by boys are different to those held by girls and are influenced by different sources of peer and media influence. These important differences now need to be addressed in the development of more appropriate prevention programs for boys.
PART 1: REVIEW OF THE LITERATURE AND

INTRODUCTION TO STUDY 1
Overview of Part 1

This thesis examines the relationship between preadolescents’ body image and the role of sociocultural factors which include peers, the media, the internalisation of body ideals, social comparisons and traditional gender ideals. The focus of this thesis is on preadolescents aged between eight and 11 years. Part 1 of this thesis provides a review of the empirical and theoretical research which has examined body image concerns among preadolescents, particularly in regard to media and peer factors which contribute to the development of these concerns.

Chapter 1 provides a review of the ways in which body image has been conceptualised and assessed in research with preadolescents. Body image has been conceptualised and assessed in children in many different ways, however, body esteem and body dissatisfaction are two of the most widely used constructs within preadolescents’ body image research. Therefore, these constructs will be a major focus in Chapter 1 and throughout this thesis. Instruments used to assess body image among preadolescents will be reviewed, while highlighting the strengths and limitations inherent in each measure. The nature and prevalence of body image concerns among preadolescent boys and girls will also be discussed in Chapter 1. Additionally, contrasts will be made in relation to the nature of body concerns held by girls and boys, and the differential use of body change strategies associated with these concerns.

Chapter 2 details the ways in which sociocultural factors can contribute to the development of children’s body image concerns. This thesis focuses on media and peers factors in relation to preadolescents’ body image and therefore this chapter will review research which has previously examined these two key factors. Pressure to achieve an ideal body and modelling are the two primary ways in which media and
peer factors can become influential. Therefore, peer and media pressure and modelling will also be discussed in relation to previous research. Chapter 2 will also highlight some of the shortcomings inherent within the research, particularly in regard to a lack of studies examining how these factors relate to preadolescent boys’ body image.

Chapter 3 examines three processes associated with the development of body image concerns: internalisation of the thin/muscular ideal, social comparisons and gender ideal pressures. These are three main processes which have been found to underpin the relationship between body image concerns and the influence of both the media and peers. Literature examining these processes will be reviewed and discussed in relation to current models of sociocultural influences. The Tripartite Model (Thompson, Coovert, & Stormer, 1999) is a well-validated model of sociocultural influence which proposes that sociocultural factors contribute to body image via internalisation of body ideals and social comparisons. Chapter 3 will examine previous research which has studied the Tripartite Model, and aspects of this model among preadolescent boys and girls. This review will demonstrate that for preadolescents, particularly boys, internalisation, social comparisons and gender ideals, are under-researched in regard to body image.
CHAPTER 1

Body Image Concerns in Preadolescence

This chapter provides a review of the current conceptualisations of body image among preadolescents. The ways in which body image has been assessed among preadolescents will also be discussed, including the strengths and limitations of different measures. Additionally, the nature and prevalence of body image concerns among preadolescent boys and girls will also be detailed, and gender contrasts will be made. This thesis will focus on the ages of eight to 11, as children of this age already display body image concerns (e.g., McCabe & Ricciardelli, 2003).

Conceptualisations of Preadolescents’ Body Image

Body image can be defined as a person’s thoughts, perceptions and feelings regarding the body (Grogan, 2008). Current conceptualisations of body image include perceptual, attitudinal, cognitive and behavioural facets (Cash, 2004). Perceptual body image refers to the accuracy with which individuals perceive their body size, whereas the attitudinal or affective component of body image relates to the satisfaction and feelings that individuals have towards their body and appearance (Allen, Byrne, McLean, & Davies, 2008). The cognitive dimension refers to the thoughts and beliefs that individuals have concerning their body shape and appearance (Allen et al., 2008). Lastly, the behavioural component examines specific behaviours, such habitual body checking, and avoidance of public situations (Thompson & van den Berg, 2002).

Children’s body image research has largely focused on assessing the cognitive and attitudinal facets of body image (McCabe, 2012). These facets of body image have been operationalised in terms of several different constructs which
include: body esteem, body dissatisfaction, body image disturbance, drive for thinness and over concern with weight and shape (e.g., Allen et al., 2008; Anschutz, Engels, Van Leeuwe, & Van Strien, 2009; Bernier, Kozyrskj, Benoit, Becker, & Marchessault, 2010; Phares, Steinberg, & Thompson, 2004). Body esteem and body dissatisfaction are the two most widely studied constructs within preadolescents’ body image research and as such, will be a focus in this thesis. Body esteem refers to self-evaluations of one’s body or appearance (Mendelson, Mendelson, & White, 2001). Body dissatisfaction can be defined as, a person’s negative thoughts or feelings towards his or her body (Grogan, 2008). Body dissatisfaction often involves a perceived discrepancy between one’s current body and their ideal body (Meland, Haughland, & Breidablik, 2007).

Assessment of Preadolescents’ Body Image

The most frequently used method for measuring body dissatisfaction among children is via figure rating tasks (e.g., Collins, 1991; Truby & Paxton, 2002). Figure rating tasks consist of a series of silhouettes which range from large to small weights, shapes and sizes. Although different sets have been developed, they typically consist of figures ranging from very thin to obese. Figure rating silhouettes are gender specific and therefore different sets are used for girls and boys. Children are instructed to select the figure which they believe best represents their current body size and shape, and then select the figure which they would ideally like to look like. The discrepancy between the two selections reflects the degree of body dissatisfaction (Collins, 1991; Truby & Paxton, 2002). This measurement tool has been demonstrated to have good test-retest reliability and has been shown to correspond well with children’s actual body size (Ricciardelli & McCabe, 2001). The advantage of using figure rating tasks is that the instructions can be easily
explained and understood, and they can be completed in a short amount of time. However, there are also some important limitations inherent in this method. Firstly, it is difficult to adequately represent all of the different dimensions of body image (e.g., weight, shape, muscularity) within the figure rating stimuli. Additionally, when measuring boys’ body dissatisfaction using figure rating scales, results must be treated with caution. Equal numbers of boys who nominate a larger or smaller figure will result in no average difference between the actual-ideal scores as these preferences will cancel each other out (Ricciardelli, McCabe, Lillis, & Thomas, 2006).

Children’s body image is also frequently assessed via questionnaires. Several questionnaires which assess children’s body image were originally developed for use with adults or adolescents and have been adapted for use with children. One such instrument is the Body Dissatisfaction subscale from the Eating Disorders Inventory (BD-EDI). The BD-EDI was originally developed for adults and was revised for use with children (Gardner, Sorter, & Freidman, 1997; Wood, Becker, & Thompson, 1996). The BD-EDI assesses beliefs that certain body parts are too large or fat. Test-retest reliability and internal consistency for this scale are high for children as young as eight years (Wood et al., 1996). There are difficulties associated with modifying scales which were originally developed for adults, for use with children. Assessing body image among children is more difficult because children are likely to experience difficulties in understanding the language used in questionnaires and they may also have difficulty responding to Likert scales (McCabe & Ricciardelli, 2001). Additionally, children may have limited awareness of the construct under investigation.
A questionnaire which was originally designed to assess body image among children is the Body Esteem Scale (Mendelson & White, 1993). This instrument assesses satisfaction with the body as a whole and taps into the child’s feelings about his/her physical appearance and body weight. This measure has good internal consistency and test-retest reliability with children as young as eight years old (Mendelson, White, & Mendelson, 1996). Factor analysis of the instrument has revealed two reliable and stable factors: satisfaction with overall appearance and body, and general satisfaction with weight (Mendelson et al., 1996).

A major limitation of several measures of children’s body image is that they focus exclusively on appearance and weight concerns. However, instruments which focus exclusively on weight and appearance in general, may not adequately tap into preadolescent boys’ body image concerns. Studies have demonstrated that children, particularly boys, desire a more muscular body (e.g., Grogan & Richards, 2002, McCabe & Ricciardelli, 2003). One measure which has been developed to capture this aspect of boys’ body image is the Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000). This measure assesses boys’ motivation to increase muscle. The DMS has been recently adapted for use with preadolescent boys by Harrison and Bond (2007) and has been shown to have adequate internal consistency.

Another scale which has been developed to capture weight and muscle concerns among preadolescents is the Body Image and Change Questionnaire for Children (Ricciardelli, McCabe, Holt, & Finemore, 2003). This measure includes two subscales, one which assesses children’s use of behaviours to change their weight and the other which assesses children’s use of strategies to increase their muscle. This scale has been shown to have good internal consistency when used with preadolescent boys and girls between the ages of eight to 11 years old. The Body
Esteem Scale has also been recently modified to include additional items which assess satisfaction with muscles (Sproal, 2010). Five additional items were added to the scale in order to make the measure more relevant to boys’ body concerns. The muscle esteem subscale of the BES was found to have good internal consistency with preadolescents aged eight to 11 (Sproal, 2010).

Compared to adults and adolescents, there are far fewer instruments which have been developed to assess preadolescents’ body image, particularly for children under the age of 10 (Smolak, 2004). A further concern is that several measures used among children have not been subjected to thorough and rigorous validity testing. Additionally, there are even fewer instruments which assess preadolescent boys’ desire for muscularity.

**The Nature and Prevalence of Body Image Concerns among Preadolescents**

The exact age of onset of body image concerns in childhood is unclear as research has produced inconsistent results (Tremblay & Limbos, 2009). Some studies have demonstrated that children as young as three and four have concerns about aspects of their appearance including their weight and muscles (e.g., McCabe et al., 2007). However, other studies have found no evidence of body image concerns among children aged five years old and younger (e.g., Heron, Smyth, Akano, & Wonderlich, 2013; Lowes & Tiggemann, 2003). However, it is clear that children between the ages of three to four already have negative attitudes toward fat and a preference for a thin body (Harriger, Calogero, Witherington, & Simth, 2010; Musher-Eizenmann, Holub, Edwards-Leeper, Persson, & Goldstein, 2003; Spiel, Paxton, & Yager, 2012; Tremblay, Lovsin, Zecevic, & Lariviere, 2011).
Body dissatisfaction has been demonstrated to increase with age throughout childhood (e.g., Heron et al., 2013; Lowes & Tiggemann, 2003). Lowes and Tiggemann (2003) found that for children between the ages of five to eight, 59% of the girls and 35% of the boys wanted a thinner figure. However, among five year old girls there were no significant differences between their actual and ideal body shapes on a figure rating task, and for boys there were no significant differences at any age. Therefore, the researchers concluded that the desire for thinness emerged in girls at the age of six, whereas for boys it was less clear. Heron and colleagues (2013) also examined body dissatisfaction in children in grades one and two from diverse backgrounds. Using a figure rating task, the researchers found that actual-ideal discrepancies were evident among grade two children, but not amongst first grade children, regardless of gender and cultural background.

By the age of eight years old, research clearly demonstrates that both preadolescent girls and boys experience body dissatisfaction. Using a figure rating task and the Body Change Inventory, Ricciardelli and colleagues (2003) found that for children aged eight to 11, about half of the boys and girls displayed dissatisfaction with some aspect of their body, including concerns about their weight and muscles. The researchers noted that the age between eight and 11 years was a significant period to commence studying body image concerns. Additionally, in an early review of the literature, Ricciardelli and McCabe (2001) reported estimates of body dissatisfaction among preadolescent girls and boys aged six to 11, based on data from studies conducted throughout different countries. They found that the estimates for the number of boys who experienced body dissatisfaction varied widely ranging from 30% to 78%. The estimates for the numbers of boys who desire a thinner body size range from 17% to 30%, whereas the numbers of boys who desire a larger/broader body size were more varied ranging from 13% to 48%. On the other
hand, the estimates for girls showed that the majority of girls desired a thinner figure (28% to 55%) and only 4% to 18% nominated a larger preferred figure.

Similar proportions of body dissatisfaction have been consistently demonstrated in subsequent studies, especially among preadolescent girls. A longitudinal study conducted by Dohnt and Tiggemann (2006) found that a considerable proportion of preadolescent girls, aged between five to eight years old, desired to be thinner (40.2% at time 1 and 43.3% at time 2). In another Australian study, Clark and Tiggemann (2007) found that 51% of girls aged between nine and 12 years old expressed a desire to be thinner according to the figure rating discrepancy measure. A similar result was obtained by Clark and Tiggemann (2008) who measured body image in nine to 12 year old girls over a 1 year time frame using the figure discrepancy measure. They found that 49% of girls at Time 1 and 55% of girls at Time 2 were dissatisfied with their body weight.

More recent studies have also demonstrated that an increasing number of boys desire a thinner body shape. For example, Dunn, Lewis and Patrick (2010) found that among Australian children aged 10-12 years old, both girls and boys were equally dissatisfied with their figures, with both groups nominating a significantly thinner ideal figure than their perceived actual figure. Similarly, Bernier and colleagues (2010) found that among Canadian children, 34.6% of boys and 45% of girls desired a smaller body shape than their current one. In addition, weighing too little was reported to be more of a concern for boys than girls, however, the children showed no gender differences in their concerns about weighing too much.

Other research has provided a more specific understanding of the nature of body image concerns experienced by preadolescent girls and boys. Generally, research has demonstrated that girls tend to be concerned with their weight and their
overall appearance, while boys tend to be concerned about their weight and their muscularity (e.g., McCabe & Ricciardelli, 2005). Young girls and boys demonstrate a strong preference for a slim, rather than fatter figure by the age of three years old (Spiel et al., 2012). Grogan and Wainwright (1996) interviewed four girls aged eight years old regarding weight concerns and body dissatisfaction. Two of the girls reported feeling fat and all of the young girls stated that they would like to have a thin body when they grew older. On the other hand, interviews with same-age boys have highlighted boys’ focus on muscularity and function (Grogan & Richards, 2002).

Grogan and Richards (2002) found that eight year old boys held similar body shape ideals as 13 and 16 year old boys and young men. In focus groups with preadolescent boys, there was a strong preference for a lean, muscular body shape and a fear and disapproval of fat as it was seen to be associated with lack of will power and laziness. Research with preadolescent boys also demonstrates an additional concern for functional capabilities of the body. Birbeck and Drummond (2006) conducted interviews with preadolescent boys aged five to six and found that boys’ desire for a larger body was strongly associated with physical performance. For example, being bigger meant being more physically capable in terms of sports.

The nature of body image concerns demonstrated by preadolescent boys and girls corresponds with the types of body change strategies utilised by each gender. Phares et al. (2004) found that among a sample of girls and boys aged eight to 11, girls were more preoccupied with their weight than boys were, and also demonstrated a greater concern for dieting to lose weight. In line with boys’ concern for muscularity, Ricciardelli et al. (2003) found no difference in desire for thinness among preadolescent boys and girls, however, they found that boys were more likely
than girls to desire a larger more muscular body type, and utilise muscle building strategies. More specifically they found that the majority of boys rated both their weight and muscles as being important (59.5%). Additionally, close to one third of the boys frequently engaged in weight loss strategies (21.5% to 39.6%), whereas almost half of the boys frequently engaged in muscle gain strategies (31.7% to 51.4%).

Overall, research has generally shown that there are some gender similarities in regard to children’s body change strategies, and this is primarily in regard to children’s focus on weight loss as a means of avoiding fatness (e.g., McCabe, Ricciardelli, & Holt, 2005). The main difference observed between girls’ and boys’ body change strategies is due to boys’ focus on muscularity and muscle gain behaviours (e.g., Phares et al., 2004; Ricciardelli et al., 2006).
CHAPTER 2

Peer and Media Factors in the Development of Preadolescents’ Body Image

This chapter examines the role of the media and peers in the development of body image concerns among preadolescents. Narrowly defined body ideals are viewed to be a key factor in the development of body concerns. The nature of these sociocultural body ideals will be discussed in this chapter. Chapter 2 will consider the ways in which the media and peers transmit body ideals, primarily via pressure to achieve the ideal body and modelling. These processes will also be discussed in relation to children’s body image research.

Factors in the Development of Preadolescents’ Body Image. It is widely recognised that the development of childhood body image concerns is influenced by a range of biological, psychological and sociocultural factors (McCabe et al., 2005). Theoretical models of biopsychosocial influence have been developed to explain body image and body change strategies among children (McCabe et al., 2005; Ricciardelli et al., 2003). Such models propose that a range of biological, psychological and sociocultural factors can contribute to some boys and girls being at greater risk for the development of body image concerns and the use of body change strategies. A key biological risk factor for children is having a high body mass index (Ricciardelli et al., 2003) and psychological risk factors include low self-esteem and negative affect (Ricciardelli et al., 2003). Within the research social factor which contribute to children’s body image have received the most attention. Three key sociocultural agents have been identified as the major contributing sources of social influence in regard to children’s body image development; parents, peers and the media. The Tripartite model (Thompson et al., 1999) represents the impact of these three agents conceptually in a model which proposes that parental, peer and media influence contribute to body dissatisfaction via the processes of internalisation and social
comparison. This thesis focuses on these processes of internalisation and social comparison while considering the ways in which peers and the media contribute to children’s body image development.

Figure 1. Biopsychosocial Model

![Biopsychosocial Model Diagram]

**Sociocultural Body Ideals**

The current ideal held within Western cultures dictates that the ideal body for males is characterised by a muscular yet slim figure, with muscular arms and shoulders and a well-developed chest (Olivardia, Pope, Borowiecki, & Cohane, 2004). The desire for this ideal among adolescent boys has been referred to as the ideal of ‘lean muscularity’ (Leon, Fulkerson, Perry, Keel, & Klump, 1999) which refers to the desire to have a body with well-developed muscles and very little body fat. For females, a slender figure is the ideal body, however, recently this has been further specified as ‘curvaceously slender’ meaning a slim physique with fat distributed in specific areas (e.g., breasts and buttocks) (Overstreet, Quinn, &
Agocha, 2010). These narrowly defined body ideals are viewed to be a prime reason for body dissatisfaction. When these ideals are incorporated into one’s personal belief system they become important and relevant to the individual. If there is a discrepancy between the beauty ideal and one’s own appearance, body dissatisfaction may result (Lawler & Nixon, 2011). Body ideals become influential when they are transmitted and reinforced by sociocultural agents such as the media and peers (Harrison & Hefner, 2009; Kichler & Crowther, 2009; Mueller, Pearson, Muller, Frank, & Turner, 2010).

It is difficult to evaluate the role of the media and peers in preadolescents’ body image as these factors are not operationalised consistently across studies (Shroff & Thompson, 2006). In the context of body image research, media and peer factors have been conceptualised as, reinforcement, appearance-related information, perceived pressure, modelling, conversations, teasing, and encouragement from one or more of several sources, such as peers, parents and the media (Blowers, Loxton, Grady- Flesser, Occhipinti, & Dawe, 2003; Hayden-Wade et al., 2005; Jones, Vigfusdottir, & Lee, 2004; McCabe & Ricciardelli, 2005; Thompson & Heinberg, 1999; Tiggemann, Hargreaves, Polivy, & McFarlane, 2004).

While there have been various characterisations of media and peer influence, researchers have argued that broadly speaking, there are two main processes. These processes are: modelling and pressure associated with the weight and/or shape (Anschutz et al., 2009; Phares et al., 2004). Modelling is the process whereby an individual directly copies another individual’s behaviours (Bandura, 1969). For example, in regard to body image and related behaviours, modelling is what occurs when a child copies the behaviour of another person who is preoccupied with their weight and consequently becomes preoccupied with their own weight (Anschutz et al., 2009). Perceived pressure relates to reinforcement from others in the form of comments or actions that may serve to perpetuate the thin/muscular ideal. These
include critical comments regarding weight, encouragement to be thin and exposure to media containing thin ideal images (Anschutz et al., 2009; Blowers et al., 2003; Haines, Neumark-Sztainer, Hannan, & Robinson-O’Brien, 2008; Harrison & Hefner, 2006).

Pressure and modelling have been assessed using a range of different instruments. Some studies have examined the effects of sociocultural factors as a composite of several different sources of influence (e.g., Ricciardelli et al., 2003). For example, the Sociocultural Influence on Body Image and Body Change Questionnaire (McCabe & Ricciardelli, 2001) was originally designed to assess the extent to which preadolescents perceive pressure to lose weight and increase muscle from different sources including their mother, father, best friend and the media. Using this measure, Ricciardelli et al. (2003) found that among preadolescent boys and girls aged eight to 11, perceived pressure to lose weight predicted body dissatisfaction, weight loss behaviours and cognitions, weight importance and strategies to increase muscles among boys and girls. Among boys aged eight to 11, Ricciardelli et al. (2006) also found that perceived pressure to lose weight predicted boys’ use of strategies to lose weight. However, pressure to increase muscle was a more important predictor of body dissatisfaction and body change strategies among boys, than perceived pressure to lose weight. This was due to the fact that pressure to increase muscle predicted strategies to lose weight, weight importance, muscle importance, strategies to increase muscles, and body image concerns.

The majority of other studies have examined the separate roles of media and peer factors. The remainder of this chapter will consider the separate influences of peers and the media factors in relation to children’s body image.

**Preadolescents’ Body Image Concerns and the Media**

The media is viewed as a powerful force in the development of body
dissatisfaction (Lawler & Nixon, 2011). This claim is supported by research which has consistently demonstrated a vast overrepresentation of idealised body shapes in the media (Harrison & Bond, 2007; Hatoum & Belle, 2004) and higher levels of body dissatisfaction associated with exposure to these idealised images (Agliata & Tantleff-Dunn, 2004; Groesz, Levine, & Murnen, 2002; Hargreaves & Tiggemann, 2004). It has traditionally been women’s bodies which have been represented in idealised ways in the media. However, over the past two decades the idealised male body has become increasingly visible in popular culture (Grogan, 2008).

Researchers have suggested that in Western culture, the gaze associated with the male body has never have been stronger (Birbeck & Drummond, 2006; Drummond, 2005). Increasingly the male body is being portrayed in the media in ways that promote objectification and commercialisation. Choma et al. (2010) argue that this current cultural trend has begun to impact men’s experiences of embodiment.

Studies have demonstrated that greater exposure to idealised images is associated with body dissatisfaction, however, most research has focused on adolescent and adult samples (e.g., Galioto, & Crowther, 2013; Grabe, Ward, Hyde, 2008; Groesz, Levine, & Murnen, 2002; Humphreys & Paxton, 2004). For example, body dissatisfaction has often been shown to be related to exposure to the thin ideal among women (e.g., Groesz, Levine, & Murnen, 2002) and adolescent girls (e.g., Durkin, Paxton, & Sorbello, 2007). Boys are exposed to the masculine ideal of masculinity, strength, and athleticism, however research has yielded inconsistent findings. Some studies have found that adolescent boys are not as vulnerable to idealised male images (e.g., Hargreaves & Tiggemann, 2004; Humphries & Paxton, 2004), however other studies have shown that men and adolescent boys show decreased body satisfaction when exposed to this ideal (Arbour & Martin Ginis, 2006; Barlett, Vowels, & Saucier, 2008; Leit, Gray, & Pope, 2002; Lorenzen, Grieve, & Thomas, 2004).
Recent sociocultural shifts in children’s body image development and their access and consumption of forms of media, has led researchers to examine the effects of children’s exposure to idealised media figures. With children watching up to 20 hours of television per week, and the increasing popularity of children's television networks, there are growing concerns for the effects that the media have on children's body image (e.g., Pardee, Norman, Lustig, Preud'homme, Schwimmer, 2007; Robinson, Callister, & Jankoski, 2008). Some studies have examined the effects of exposure of media on body image concerns among children (e.g., Clark & Tiggemann, 2006; Harrison & Bond, 2007). Others have assessed perceived pressure on children from the media to achieve the thin or muscular ideal (e.g., Blowers et al., 2003).

Studies which have examined the effect of exposure to appearance-focussed media on children’s body image have largely focussed on girls and have indicated inconsistent findings. One approach to examine appearance media exposure is to assess exposure experimentally, whereby the child is briefly exposed to appearance-related media and body dissatisfaction is assessed before and after. Another approach is to assess media exposure by using self-report instruments in which participants are asked to provide details about their usual media consumption, (e.g., how many hours of TV do you watch?).

In a longitudinal study which utilised a self-report method, Harrison and Hefner (2006) found that for preadolescent girls, television viewing at time 1 predicted increased disordered eating and a thinner post pubescent body ideal at time 2, one year later. In another longitudinal study conducted by Dohnt and Tiggemann (2006), a similar methodology was used whereby girls aged five to eight years old were asked if they watched a list of 12 children's television shows or read certain magazines. The researchers found that media influences predicted body image and dieting awareness. Specifically, it was found that watching music television shows
and reading appearance-focused magazines predicted dieting awareness. Additionally, girls who looked at magazines aimed at adult women had greater dissatisfaction with their appearance. Clark and Tiggemann (2007) measured appearance media exposure and body dissatisfaction among preadolescent girls using the same self-report methodology. They found that exposure to appearance media increased with age and was negatively related to body esteem. Clark and Tiggemann (2008) found that exposure to appearance media was only indirectly associated with body dissatisfaction via peer appearance conversations among preadolescent girls (Clark & Tiggemann, 2008). One year later the researchers found that exposure to appearance media was completely unrelated to participants’ body dissatisfaction.

On the other hand, some studies have failed to find support for the relationship between media exposure and body dissatisfaction among preadolescent girls. Clark and Tiggemann (2006) found that appearance media exposure was unrelated to body dissatisfaction among Australian primary school-aged girls. Exposure was assessed by giving the participants a list of television shows and magazines and asked to report the frequency with which they watched/read them. Hayes and Tantleff-Dunn (2010) experimentally investigated the effects of brief exposure to appearance-related media on young girls' body image. The participants were shown a video containing appearance-related clips from 10 animated children's movies. The results indicated that exposure did not affect body dissatisfaction.

Less research has examined the role of media exposure in relation to preadolescent boys’ body image concerns. Previous studies with preadolescent boys have provided mixed results. Murnen, Smolak, Mills and Good (2003) found that among children aged six to 12, boys were aware of sociocultural messages conveyed by the media regarding the masculine ideal, but they were less affected by the messages than girls were. The researchers used a version of the Sociocultural Attitudes towards Appearance Questionnaire (SATAQ: Smolak, Levine, &
Thompson, 2001) which was developed for use with middle school girls and boys (separate versions were utilised for girls and boys). A longitudinal survey conducted by Moriarty and Harrison (2008) examined children’s self-reported television exposure in relation to their eating attitudes, assessed via the Children’s Eating Attitude Test (Maloney, McGuire, & Daniels, 1988). The researchers found that television exposure predicted disordered eating attitudes one year later for girls but not for boys. On the other hand, using the same measure, Harrison (2000a) found that television viewing in first to third grade children predicted increased disorder eating attitudes among both boys and girls in first to third grade.

Harrison and Bond (2007) investigated the effects of exposure to magazines on 181 preadolescent boys’ body image over a two wave longitudinal study. They assessed self-reported exposure to four ideal-body magazine genres (health/fitness, fashion, sports, and gaming) and whether this predicted an increased drive for muscularity 1 year later. The researchers found that exposure to video gaming magazines at time 1 predicted a significant increase in drive for muscularity one year later, but only for White, not Black boys.

Fewer studies have examined the role of the media in relation to modelling and pressure associated with body image concerns among preadolescents. Blowers et al. (2003) assessed the effects of modelling and perceived pressure from the media on preadolescent girls’ body image. Pressure and modelling from the media was assessed by three and five items respectively. Items were based on those used by Stice (1998) which were developed for young adult women. The researchers found that body dissatisfaction was correlated with media perceived pressure to be thin and body dissatisfaction, however, body dissatisfaction was not correlated with media modelling. The researchers suggested that while media exposure and pressure may be important factors in the development of body image concerns for girls, modelling may be more influential when coming from more immediate sources such as peers or
family members (Blowers et al., 2003). Harrison (2009) assessed the effect of perceived media pressure on the body image of preadolescent girls and boys using the Multidimensional Media Influence Scale (MMIS; Cusumano & Thompson, 2001) MMIS. The MMIS is an 11-item measure which assesses awareness of appearance ideals, internalisation of these ideals, and perceived media pressure to conform to these ideals. Validity and internal consistency have been established for children aged eight to 11 (Harrison, 2009). Using this measure, it was found that perceived pressure from the media to lose weight predicted body dissatisfaction in girls and boys, but more strongly in girls (Harrison, 2009). An important consideration in this finding is that the MMIS does not include any items relating to muscularity and therefore may not be fully capturing all aspects of boys’ body ideals.

As there are only a few studies which have examined media factors in relation to children’s body image concerns, particularly among preadolescent boys, it is critical that this topic is examined in more depth. As research with preadolescent boys is so limited, it is possible that researchers are yet to tap into the media sources which may be influencing young boys. Additionally, the ways in which the media become influential to children’s body image remain unclear. Chapter 3 will examine three key factors which may help to explain the effect of the media on children’s body dissatisfaction. These will include internalisation of body ideals, endorsement of gender ideals, and social comparisons.

**Preadolescents’ Body Image Concerns and Peer Factors**

The influence of peers has also been found to be an important sociocultural factor in relation to body image concerns. It is often argued that while the media promote idealised images, the importance and relevance of these images is significantly reinforced by more immediate social influences such as peers (Lawler & Nixon, 2011). Studies have demonstrated that peers can play an important role in
preadolescents’ body image (Blowers et al., 2003; Clark & Tiggemann, 2006; Phares et al., 2004). However, peer influences have been conceptualised and assessed in different ways, across the research. Peer factors which have been examined in previous research include: appearance-related conversations or discussions, teasing, weight-related criticism, perceived pressure and social comparison (Clark & Tiggemann, 2006; Hayden-Wade et al., 2005; McCabe & Ricciardelli, 2005; Nelson, Jensen, & Steele, 2011). Social comparisons will be discussed in more detail in Chapter 3.

Many studies have examined the relationship between peer influences and body dissatisfaction among adolescents. Therefore, a more detailed understanding of this relationship has been developed among adolescent boys and girls. For example, Schutz and Paxton (2007) found that among adolescent girls (mean age 15.9 years), negative friendship qualities including conflict and alienation, were related to body dissatisfaction and disordered eating. Smolak, Murnen and Thompson (2005) examined peer pressure among adolescent boys aged 11 to 16 years. Peer pressure was assessed using eight items which measured direct comments from peers (teasing) and perception of peers’ investment in body shape and muscularity. Peer pressure was found to be related to boys’ use of muscle-building techniques, and this relationship was partially mediated by social comparisons.

Adolescent boys and girls aged between 12 to 18 have been shown to engage in appearance-related conversations with their peers on a regular basis (Jones, 2004; Krayer, Ingledew, & Iphofen, 2008; Lawler & Nixon, 2011). Discussions involving looks, image and attractiveness provide a social environment where appearance is a focus and is valued (Lawler & Nixon, 2011). Conversations and time spent discussing appearance-related topics, reinforces the importance of appearance and
promotes the importance of the thin/muscular appearance ideals within the peer
culture (Mueller, et al., 2010). For example, Paxton, Schutz, Wertheim and Muir
(1999) examined friendship-group characteristics in relation to body image concerns
among girls in grade 10 (mean age 15.5 years). The researchers found that girls
within friendship groups shared similar levels of body image concerns, dietary
restraint and use of weight loss behaviours. More recently, Lawer and Nixon (2011)
examined aspects of the peer culture (appearance criticism, appearance
conversations) in relation to body dissatisfaction among adolescent boys and girls
(mean age 16 years). For girls and boys, appearance conversations with friends and
peer appearance criticisms were significant predictors of body dissatisfaction.

Appearance-related interactions with peers have also been shown to be
important in relation to preadolescent girls’ body image. Sinton and Birch (2006)
examined the effects of peer influences on preadolescent girls’ appearance schema
and body dissatisfaction. The researchers assessed appearance-related interactions
with peers by using a subscale of the Inventory of Peer Influences on Eating
Concerns developed by (Oliver & Thelen, 1996). They found that body
dissatisfaction was related to appearance-related interactions with peers. Clark and
Tiggemann, (2006) also found that peer conversations about appearance topics (e. g.,
the size and shape of girls’ bodies) were related to body dissatisfaction among
preadolescent girls. Similarly, Clark and Tiggemann (2007) found that peer
appearance conversations were correlated with body dissatisfaction and also
associated with increased dieting behaviours among preadolescent girls.

Other studies have failed to demonstrate an association between peer factors
and preadolescent girls’ body dissatisfaction. Clark and Tiggemann (2008) found that
peer appearance conversations were not temporally antecedent to either appearance
schemas or body image among preadolescent girls. Similarly, Dohnt and Tiggemann (2005) also found that among preadolescent girls, peer discussions were not related to either body dissatisfaction or dieting awareness. However, the researchers did find that girls’ perception of their peers’ body dissatisfaction was the strongest predictor of their own level of body dissatisfaction. In a longitudinal study, Dohnt and Tiggemann (2006) found that preadolescent girls who perceived that their friends desired a thinner body at Time 1, desired thinner body for themselves, were less satisfied with their bodies, and had lower self-esteem at Time 2.

Fewer studies have examined these trends in preadolescent boys. Saling, Ricciardelli and McCabe (2005) examined the effect of peer influence on weight and muscle concerns in preadolescent girls and boys over a 10-month period. Peer influences were measured with four items from the Peer Relations subscale from the full scale in the Self- Description Questionnaire-I (SDQ-I; Marsh, 1990). Cross-sectionally it was found that peer relations were not associated with girls’ or boys’ eating or muscle concerns. Longitudinally it was found that peer relations predicted girls’ muscle preoccupation. However, for the boys, peer influences were unrelated to any of the outcome variables (dieting, food preoccupation and muscle preoccupation). Pinheiro and Giugliani (2006) examined peer influences and body image among Brazilian children aged eight to 11. Using an instrument specifically designed for the study, the researchers assessed perceived friends' expectations regarding the children’s weight. It was found that perceived expectations from friends regarding children’s weight was associated with body dissatisfaction.

Recently, Michael and colleagues (2013) examined the relationships between peer factors, physical self-worth and body image discrepancy among preadolescent boys and girls. Three dimensions of peer influence were assessed. These were:
getting along with peers, peer victimization, and fear of negative evaluation by peers which was measured using the Social Anxiety Scale for Children (La Greca, Dandes, Wick, Shaw, & Stone, 1988). The researchers found that for boys, getting along with peers was negatively related to body image discrepancy, and for girls fear of negative evaluation by peers was positively related to body image discrepancy. For both boys and girls, getting along with peers and fear of negative evaluation by peers were found to be directly related to physical self-worth.

Another area which has been shown to be of importance in regard to children’s body dissatisfaction is teasing or weight-related criticism. Weight-related criticism is a specific type of peer victimisation in which the child’s weight or body size is the subject of the teasing (Libbey, Story, Neumark-Sztainer, & Boutelle, 2008). Weight-related criticism and teasing by peers has been explored in relation to body image disturbance and has been shown to play an important role in the development of weight and body image concerns (Jensen & Steele, 2009).

Several studies have demonstrated that adolescent boys and girls who receive negative comments from their peers are more likely to experience body dissatisfaction. Eisenberg, Neumark-Sztainer, Haines and Wall (2006) found that weight-related teasing was predicted body dissatisfaction and lower self-esteem five years later for both boys and girls. Research also demonstrates that among adolescent boys appearance related criticism from their peers is correlated with body dissatisfaction (Smolak & Stein, 2006). McVey, Tweed and Blackmore (2005) examined peer teasing on the weight loss and muscle-gaining behaviours of 10 to 14 year old boys and girls. Teasing was found to be associated with muscle-gain behaviours among boys but not among girls. Similarly, Paxton, Eisenberg and Neumark-Sztainer (2006) found that weight teasing predicted body dissatisfaction
after five years, but only for 12 year old boys. The finding was not supported among 15 year old boys, or girls.

Research on the effects of weight-related criticism in preadolescents remains limited. Recently, Nelson et al. (2011) examined weight-related criticism, body size perceptions, and body size dissatisfaction among preadolescent boys and girls. Weight-related criticism was a significant and unique predictor of body size perceptions and body dissatisfaction. However, weight status moderated these relationships, with significant effects for weight-related criticisms found only in the overweight group. Hayden-Wade et al. (2005) found that overweight children were more likely to experience weight-related criticism. The researchers found that 78% of overweight children perceived appearance-related criticism, compared to 37.2% of non-overweight children. The degree of weight teasing perceived by children was found to be related to weight concerns and negative self-perceptions.

Blowers and colleagues (2003) assessed perceived pressure and modelling from peers in relation to preadolescent girls’ body image. The researchers found that body dissatisfaction was not significantly correlated with perceived peer pressure to be thin from peers, however, body dissatisfaction was significantly correlated with modelling by peers. Sands and Wardle (2003) also examined the effects of peer influence among preadolescent girls. A measure of modelling was developed which assessed peer-related weight/eating attitudes and behaviour. The researchers found that girls’ body dissatisfaction was associated with peer weight-related attitudes and behaviour. Phares and colleagues (2004) explored body image concerns in relation to peer influences among preadolescent girls and boys aged eight to 11. Peer influences were measured using the Inventory of Peer Influence on Eating Concerns (IPIEC; Oliver & Thelen, 1996) which is a 30-item measure of peer influences on children’s
eating and body shape concerns. Phares et al. (2004) found that peer influences were significantly correlated with body dissatisfaction and drive for thinness among boys and girls.

Research examining peer factors in relation to preadolescents’ body image has focused more on preadolescent girls. Therefore several questions remain regarding the ways in which boys interact with their peers which may be significant for the development of body dissatisfaction. One unstudied source of peer influence which may be important for body image development is participation in sport with peers. Sports participation with peers has been shown to be important to adolescent boys’ body image (Ricciardelli et al., 2006). Additionally, peers and media factors also convey pressure for young people to behave in accordance with gender ideal expectations (Gray, Simon, Janicke, & Dumont-Driscoll, 2011), and are an important source of social comparisons (Mueller, et al., 2010). The following chapter will discuss three key factors which may moderate the effect of peer and media factors on children’s body dissatisfaction. These will include internalisation of body ideals, endorsement of gender ideals and social comparisons.
CHAPTER 3

Processes in the Development of Body Image Concerns

This chapter examines three processes which play important roles in the relationships between body image concerns and sociocultural factors such as the media and peers. These include internalisation of the thin/muscular ideal, social comparisons, and endorsement of gender-ideals. Studies that have examined these three processes will be reviewed in relation to models of sociocultural influence and preadolescents’ body image development. This chapter will also highlight areas of the literature where research with preadolescents is sparse and inconclusive.

Psychological Processes and Sociocultural Models

Internalisation of the thin/muscular ideal, social comparisons and endorsement of gender ideals, are three processes which have been shown to be important in the relationships between body image concerns and sociocultural factors such as the media and peers. Some of these processes have become critical elements of well-validated models of sociocultural influence on body image development. The Tripartite Influence Model proposed by Thompson et al. (1999) predicts that internalisation of body ideals and social comparisons mediate the influence of peers and the media on body dissatisfaction (e.g., Papp, Urbán, Czeglédi, Babusa, & Tury, 2013). The model was originally developed to explain body dissatisfaction among females and several studies have found support for the model among adolescent girls and women (Jones, 2004; Knauss, Paxton, & Alsaker, 2008; Papp et al., 2013), and also among men and adolescent boys (Jones, Bain, & King, 2008; Tylka, 2011). The majority of studies which have examined the Tripartite Model have focused on adults and adolescents. Therefore, with regard to preadolescents, the relationships between
Body image concerns, peer/media influence and psychological processes, while supported, is far less understood.

**Thin/Muscular-Ideal Internalisation**

Internalisation refers to the extent to which an individual cognitively ‘buys into’ and attempts to approximate socially defined ideals of attractiveness (Thompson & Stice, 2001). These ideals may be incorporated into one’s personal belief system where they may affect one’s attitudes and behaviours (Thompson et al., 1999). For instance, individuals may feel compelled to reach the ideal body and commit to behaviours intended to move them closer toward achieving the ideal body (Thompson & Stice, 2001). However, due to the inevitable discrepancy between the unattainable beauty ideal and one’s own appearance, internalisation is often associated with body dissatisfaction (Lawler & Nixon, 2011). In fact, internalisation has been found to be an important mediator between body dissatisfaction and sociocultural factors (e.g., Clark & Tiggemann, 2006). This is because body dissatisfaction depends on the importance that an individual attaches to sociocultural body ideals, in relation to their own body (Grogan, 2008). Additionally, the importance placed on body ideals is dependent on sociocultural factors such as the media and peers which have the power to reinforce the importance of these messages (Myers & Crowther, 2009).

A key component of the Tripartite Model is that internalisation of the thin ideal mediates the relationship between sociocultural influence and body image. Studies which have examined internalisation of media and peer factors among preadolescent girls have provided support for this pathway within the Tripartite Model. For example, research has shown that media and peer influences are associated with preadolescent girls’ body dissatisfaction (Anschutz et al., 2009;
Blowers et al., 2003; Kichler & Crowther, 2009; Phares et al., 2004). Moreover, internalisation of the thin ideal has been found to mediate these relationships (e.g., Anschutz et al., 2009; Blowers et al., 2003; Clark & Tiggemann, 2006).

Studies have demonstrated that among preadolescent girls, internalisation plays an important role in the relationship between messages from the media and body dissatisfaction (Blowers et al., 2003). For example, Blowers et al., (2003) examined thin-ideal internalisation in a sample of 153 girls aged 10 to 13 years. The researchers found that internalisation fully mediated the relationship between media pressure for the thin ideal and body dissatisfaction. Similarly, a study by Anschutz et al. (2009) examined specific media content in relation to body image concerns in young children. They found that for girls aged seven to nine years, watching soaps and music television often was associated with higher body dissatisfaction and restrained eating, and this relationship was mediated by internalisation. Alternatively, Clark and Tiggemann (2008) found no such effect in their longitudinal study among preadolescent girls. Measures of media and peer influence were assessed as well as level of internalisation. Internalisation was not found to be a mediator between sociocultural factors and body dissatisfaction, as neither media nor peer influence were found to predict any change in body image. However, it was found that internalisation predicted worsened body satisfaction one year later.

Among young adolescent girls, similar findings have demonstrated the importance of internalisation in understanding girls’ body dissatisfaction. Recently, McLean, Paxton and Wertheim (2013) examined the contribution of media literacy to girls’ (mean age 12.84 years) body dissatisfaction via the mediating influences of internalisation and social comparison. The researchers found that girls’ body dissatisfaction was directly influenced by internalisation and social comparisons.
However internalisation and social comparisons also mediated the relationships between media exposure and body dissatisfaction. Keery, van den Berg and Thompson (2004) examined the Tripartite Model among young adolescent girls in grades six to eight. The researchers also found that internalisation mediated the relationship between media influence and body dissatisfaction.

Other research has shown that peers also play an important role in children’s internalisation of body ideals. Sands and Wardle (2003) found that for nine to 12 year old girls, peers were an important factor in predicting internalisation of the thin ideal. Similarly, Clark and Tiggemann (2006) also found that for preadolescent girls, peer appearance conversations were related to the internalisation of thin ideals, which was, in turn, related to body dissatisfaction. These findings replicate trends among young adolescents in regard to peer factors, internalisation and body image. Lawler and Nixon (2011) found that for male and female adolescents, appearance-related conversations with friends were a predictor of body dissatisfaction, and internalisation mediated this relationship. More recently, Rodgers, Paxton and McLean (2013) examined an extended version of the Tripartite Model among early adolescent girls. The researchers found that internalisation of the thin ideal fully mediated the relationship between peer weight-related teasing and body dissatisfaction.

Very few studies have explicitly investigated internalisation of body ideals among preadolescent boys in direct relation to body image concerns, and these findings have been inconsistent. In an early study, Cusumano and Thompson (2001) examined internalisation of body ideals in relation to preadolescent boys and girls. The researchers used the Multidimensional Media Influence Scale (MMIS) (Cusumano & Thompson, 2001) to measure internalisation of body ideals
represented in the media. They found that internalisation of the thin ideal predicted body dissatisfaction among girls and boys. However, internalisation only explained a significant amount of variance for girls. Harrison (2009) also found that among children aged eight to 11, internalisation predicted body dissatisfaction for Anglo American boys and girls, but not African American children. Using the same measure, Cusumano and Thompson (2001) found no evidence for the same relationship among preadolescent boys (aged eight to 11). For both boys and girls, the researchers found that overall media influences were directly associated with body dissatisfaction. However, only for girls did internalisation play a mediating role within this relationship. More recently, the MMIS has been utilised among children aged eight to 13. Allen et al. (2008) found that internalisation of body ideals was significantly related to body image for girls, but this relationship was not supported for boys.

Among early adolescent boys, the role of internalisation in relation to body image is also unclear. McVey et al. (2005) longitudinally examined the influence of awareness and internalisation of media stereotypes on the weight loss and muscle-gaining behaviours of 10 to 14 year old boys and girls. Internalisation of media messages was predictive of boys' weight loss and muscle-gaining behaviours. Among the girls, awareness and internalisation of media stereotypes were also predictive of weight loss behaviours, but neither were predictive of muscle gaining behaviours. Smolak et al. (2001) found that for middle-school boys (grades six and seven), internalisation of appearance ideals was related to muscle-building techniques, concerns about being too small, and weight control techniques. However, these correlations were not as strong as those found for girls’ internalisation. The researchers utilised the SATAQ (Heinberg, Thompson, & Stomer, 1995) which was modified to represent different body ideals for boys and girls. In the boys’ version,
internalisation of the thin and muscular ideal was assessed. Using the same modified version of the SATAQ, Murnen et al. (2003) also found a significant relationship between preadolescent boys’ and girls’ internalisation of body ideals and their body esteem, although this relationship was weaker for boys. Recently, Petrie, Greenleaf and Martin (2010) also utilised the SATAQ and found that among middle-school aged boys, there was no relationship between internalisation of appearance ideals and body dissatisfaction.

While some researchers have argued that the mixed results are an indication that men and boys do not internalise sociocultural messages regarding body ideals to the same extent that women and girls do (Knauss et al., 2007), others have argued that the instruments used to assess the constructs may be more relevant for females than males (Karazsia & Crowther, 2009; McCabe & Ricciardelli, 2001). A concern with current research is that measures examining sociocultural factors in relation to boys’ body image have often been adapted from studies with girls. However, body image is a highly gendered phenomenon whereby traditional gender ideals interplay closely with appearance ideals. Thus, research is needed to more fully study how gender ideals may accentuate preadolescent boys’ body image concerns.

Additionally, an implicit assumption within much of the research examining internalisation of body ideals, is that the media and peers contribute to body image concerns independently (Harrison & Hefner, 2009). However, studies with adolescents have shown that the influence of the media is not necessarily directly felt, but rather pressure is felt when media ideals are reinforced by peers. For example, Milkie (1999) conducted individual interviews with adolescents who reported that they were not directly influenced by media ideals, but felt pressure to meet them because their friends believed in these ideals. Similarly, Clark and
Tiggemann (2006) found that for a sample of girls aged nine to 12 years, their exposure to appearance-focused media was not directly related to their body dissatisfaction, but was indirectly related via their conversations about appearance among peers. Peer appearance conversations were related to internalisation of thin ideals, which was, in turn, related to body dissatisfaction. The researchers argue that media and peer influence need to be examined together as they are part of an interrelated appearance culture within which it is likely that appearance ideals presented in the media are reinforced by their peers (Clark & Tiggemann, 2006).

Given that only a limited number of studies were located which examined internalisation in preadolescent boys, additional studies are now needed to more fully examine the nature and role of internalisation of appearance ideals among boys, and how these may differ from those of girls. It has been argued by some researchers that preadolescent boys are less likely to internalise appearance ideals (Knauss, et al., 2007), however, the reasons for this are unknown. It may be that boys pay less attention to media messages or they see these media messages as less relevant to them. Moreover, it may be that peers play an important role in helping to process media messages, as has been found for older groups. However, no studies to date have examined and compared the roles of peers and the media on preadolescent boys’ body image. Therefore, little is known about how preadolescent boys interpret media messages about appearance ideals and whether these are also reinforced by their peer interactions.
Gender Ideals and Body Image Concerns

Gender ideal expectations are another important sociocultural factor which may underlie the development of body image among preadolescents. Masculine and feminine gender ideals are the beliefs that society holds about the personal qualities and attributes, that men and women should possess (Basow, 2012). Previous research has demonstrated that the pressure associated with masculine and feminine gender ideal expectations is an important predictor of body dissatisfaction among adults (McCreary, Saucier, & Courtenay, 2005; Olivardia et al., 2004; Schwartz & Tylka, 2008; Tylka, Bergeron, & Schwartz, 2005). Sociocultural gender ideals highlight that there are certain types of body shapes and traits which demonstrate masculinity or femininity, and that these qualities ought to be pursued by males and females, respectively, as a means of being valued (Mitchell, Petrie, Greenleaf, & Martin, 2012). For example, studies have demonstrated that men believe that being muscular is a way to externally portray a masculine identity (Banasiak, Wertheim, Koerner, & Voudouris, 2001; Pope, Olivardia, Gruber, & Borowiecki, 1999).

Gender stereotypes in Western societies portray men as possessing active-functional traits such as competitiveness and dominance, and women as possessing nurturing traits such as sensitivity and compassion (Gerber, 2009). Gender stereotypes are an important aspect of children’s development. Gender socialisation is the process through which children learn the norms, values and expectations for men and women in their culture (Ward, 2003). Socialising aspects of culture, such as parents, media and peers, convey messages to children about their distinctive gender roles. In this way, children learn gender ideals and how these are matched to their biological sex (Basow, 2012).
It is between the ages of 2 and 7 that children learn that their biological sex is something that is stable throughout their life (Kohlberg, 1966). Young children then establish schemas, beliefs and behaviours which they associate with being their gender. They use these schemas to process and understand gender-oriented behaviour. These schemas also lead to the development of gender ideals because they are used to process and understand gender-oriented behaviour (Martin & Halverson, 1983). Pressure for gender conformity begins early in childhood, soon after children develop a basic understanding of their gender identity (Martin, Ruble, & Szkrybalo, 2002). Pressure to conform to gender ideals is associated with adjustment difficulties such as low self-esteem in childhood (Corby, Hodges, & Perry, 2007; Yunger, Carver, & Perry, 2004). For example, Yunger et al. (2004) found that among preadolescents (mean age 11.1 years), low gender typicality led to reduced self-esteem one year later for girls and boys.

A primary way in which gender ideals are communicated is via the media. The media promote images and information which reflect the gendered ideology of the culture and provide a view of the world which children are exposed to from a very early age (Acker, 1992). Traditionally, portrayals of men as physically strong, dominant and active, and women as passive and objectified have prevailed in the media (Acker, 1992; Hust & Brown, 2009). For women, the media portray the message that their femininity will be judged based on their static beauty, and for men, that their masculinity will be judged on their body function, strength and physical abilities (Abbott & Barber, 2010; Franzoi, 1995). Although research into gender stereotypes and objectification has traditionally focused on women, recent studies indicate that male bodies in the media are becoming more objectified by increasingly being portrayed in more sexually explicit ways and revealing muscular bodies (Hust & Brown 2009). For example, research has shown that male bodies
featured in magazines have become dramatically more lean and V-shaped over the years and muscularity is also shown to have increased progressively over the years (Law & Labre, 2002). For this reason, as well as the dramatic increase in popularity of sportsmen over the last 15 years, it has been argued that the media has created an environment where muscularity, attractiveness and physical fitness are not just highly sought after attributes for men, they are a necessary aspect for a healthy, fit, happy and successful life for men (Grogan, 2008).

Individuals who endorse traditional masculine and feminine gender ideals may be more sensitive to gendered sociocultural messages and may also attach greater personal significance to these ideals. Research has shown that boys who demonstrate greater endorsement of masculine gender ideals are also more likely to have internalised the importance of a muscular ideal body shape (Smolak & Stein, 2006). Similarly, girls who show greater endorsement of feminine gender ideals also demonstrate greater internalisation of the thin ideal (e.g., Swami & Abbasnejad, 2010). Research also shows that the nature of body dissatisfaction in males and females and the types of body change strategies used are consistent with masculine and feminine gender ideals. For example, girls are primarily concerned with reducing body weight and most commonly do so via dieting (Phares et al., 2004), whereas adolescent boys are concerned about increasing muscle as well as reducing body fat and are more likely to do so via cardiovascular activities (Petrie, et al., 2010), muscle-enhancing activities, and in extreme cases among men, muscle-enhancing drugs (Olivardia, et al., 2004).

In line with observations among adolescent boys, there is some evidence to suggest that young preadolescent boys are also influenced by aspects of gender ideal pressure. Young boys’ motives for body change and their focus of body
dissatisfaction are consistent with men’s dissatisfaction in regard to striving to meet the masculine gender expectations. For example, Ricciardelli, et al. (2003) found no difference in desire for thinness among preadolescent boys and girls, however, they found that boys were more likely than girls to desire a larger more muscular body type, and utilise muscle building strategies. The majority of boys rated both their weight and muscles as being important (59.5%). Additionally, close to one third of the boys frequently engaged in weight loss strategies (21.5% to 39.6%), whereas almost half of the boys frequently engaged in muscle gain strategies (31.7% to 51.4%).

Until the age of six years, boys and girls tend to use media in similar ways, spending about the same amount of time with the same kind of content (Anand & Krosnick, 2005). But as gender schemas differentiate to a greater extent in middle childhood, patterns of media use also begin to vary dramatically. While boys who are eight years of age or older are more likely to be drawn to television programs involving sport or action, girls who are eight years of age or older, tend to be more likely to choose family oriented content, romance and comedy (Roberts & Foehr, 2004). Researchers have noted that the new media environment provides more opportunity than ever before for boys and girls to use media to reinforce gender differences in behaviours and expectations (Hust & Brown, 2009). However, studies examining the effects of this gender socialisation on children’s body image are rare.

The ways in which peers convey gender ideals is also an important factor to consider in relation to body dissatisfaction. Socialisation among the peer group has been proposed to elicit adherence to gender expectations via engagement in same-sex interactions and also reprimand for the exhibition of non-normative gender characteristics (Lee & Troop-Gordon, 2011). For instance, some studies have
demonstrated the importance of adhering to gender ideal expectations (good at sports or muscular) for popularity and acceptance among school aged children (Adler, Kless, & Adler, 1992). Furthermore, pressure from peers to adhere to such norms (e.g. increase muscle-tone) has resulted in the adoption of various body change strategies and body dissatisfaction among adolescent boys (Smolak et al., 2005; Smolak & Stein, 2006).

Studies have also shown that violations of gender ideals often result in peer reproach and social punishment, thus reinforcing messages about which behaviours are acceptable for boys and which are acceptable for girls (Blakemore, 2003; McAninch, Milich, Crumbo, & Funtowicz, 1996). For example Blakemore (2003) examined gender ideal-violations among children aged three to 11. It was found that girls who played loudly, roughly and played football were devalued and evaluated more negatively. Recently, Lee and Troop-Gordon, (2011) examined the association between specific forms of peer victimisation and children's adherence to traditional gender ideals. Boys reported higher levels of peer victimisation in all four domains (physical, verbal, social and general) and boys’ victimisation predicted lower levels of feminine behaviours.

Hopkins (2006) carried out individual interviews and focus groups with preadolescent boys, and found that they commonly associated muscularity with popularity (‘being cool’) and fitness. Whereas, being overweight or skinny was perceived negatively as it was associated with either being ‘weedy’ or lazy and not good at sports. Similarly, Grogan and Richards (2002) found that eight-year-old boys held a strong preference for a lean muscular body shape and a fear and disapproval of fat as it was seen to be associated with lack of will power and laziness. Other studies have shown popularity among primary school aged boys is associated with the
display of other masculine-gender ideal traits, such as aggression (Estell, Cairns, Farmer, & Cairns, 2002; Rodkin, Farmer, Pearl, & Van Acker, 2006).

Consistent with masculine gender-role expectations, research suggests that already by preadolescence, the preference for masculine body characteristics is greatly influenced by a concern for the functionality of their bodies particularly in regard to physical abilities including sports (Birbeck & Drummond, 2006; Smolak & Stein, 2006). Birbeck and Drummond (2006) conducted qualitative interviews with five and six year old boys. One of the key themes to emerge from analysis was that the ideal of a larger body was strongly associated with physical performance. For instance, if one was bigger, they could run faster, play football better and have all kinds of other physical advantages. The researchers suggest that boys attempt to establish a sense of masculinity by using their body as their means of expression. It may be a means in which boys identify themselves and impose their masculinity within their peer groups by demonstration of their physical prowess (Birbeck & Drummond, 2006).

No studies were located which have examined the relationship between preadolescents’ endorsement of gender ideals in relation to their body image. However, a small number of studies were located which have examined children’s gender role identity and their body image. Gender role identity refers to the degree to which an individual identifies with the sociocultural meanings attached to masculinity and femininity (Basow, 2012). Children develop their gender role identity throughout childhood as part of their developing sense of self (Basow, 2012).
An early study was conducted by Flannery-Schroeder and Chrisler (1996) who examined gender-role identity among children aged six to 11 using the Children’s Sex Stereotype Measure (CSSM; Best et al., 1977). The CSSM assesses children’s gender role identity via stories which represent traditional masculine or feminine traits and characteristics. The researchers found no relationship between gender-role identity and children’s use of body change strategies. Thomas, Ricciardelli and Williams (2000) examined gender-role identity among children aged eight to nine. The researchers used the Children’s Sex Role Inventory (CSRI; Boldizar, 1981) which assesses children’s identification with masculine and feminine traits. The findings demonstrated that for boys, higher identification with feminine items predicted engagement in body change strategies. There was no relationship observed between boys’ identification with masculine items and body change strategies. Among girls, gender-role identification was not related to body change strategies at all. Measures of gender-role identification used in these studies may be limited by their reference to characteristics which may not reflect children’s current conceptualisation of important masculine and feminine qualities. Studies have demonstrated that investment in the athletic-ideal and gender ideal endorsement has been found to predict increased drive for muscularity and potentially harmful muscle-building behaviours in college age men and adolescent boys (Smolak & Murnen, 2008; Smolak & Stein, 2006). However, this association remains to be examined among preadolescent boys.

Smolak and Murnen (2008) found that among college age men and women, gender norm endorsement was related to drive for muscularity, drive for thinness and also drive for leanness among men, and only drive for thinness among women. Smolak and Stein (2006) examined the direct effects of endorsement of traditional
Endorsement of masculine gender ideals was assessed using the Male Physical Attributes Investment Scale (Smolak & Stein, 2006). Results demonstrated that endorsement of masculine gender ideals predicted drive for muscularity and also acted as a moderator of the effect of media pressure on drive for muscularity. These findings were also supported in a younger sample of adolescent boys. Smolak and Stein (2010) examined endorsement of masculine gender ideals, assessed using the Male Physical Attributes Investment Scale, among a sample of young adolescent boys (mean age 12.92 years). The researchers found that boys who reported greater investment in masculine physical attributes (such as being good at sports and lifting heavy things) were more likely to be invested in media ideals of muscularity and were also more likely to use muscle building techniques compared to those boys who were less invested in masculinity, one year later.

In the current popular culture, preadolescents are more than ever, surrounded by, and have access to gendered media images and messages which influence developing gender identities. Furthermore, studies have shown that gender ideals and expectations are enforced and sanctioned by peers. However, currently preadolescents’ body image development in regard to gender ideal expectations remains relatively unexamined. Developmental studies have illustrated the importance for children to feel like they fit in at school and also that from a young age students are aware of the link between conforming to appearance expectations and acceptance among their peers (Oliver & Thelen, 1996). For example, Martin et al. (2013) found that children chose their friends based on perceived similar levels of gender-typical behaviours. Therefore, it is important to examine how these gender
ideal expectations are transmitted by the media and enforced by peers and how they relate to preadolescents’ body image.

**Social Comparison Theory and Body Image Concerns**

Social comparisons have been found to be one of the most important processes in the development and maintenance of body dissatisfaction among adults and adolescents (Stormer & Thompson, 1996). However, in regard to children, research examining this process is sparse and has resulted in inconsistent findings. This is surprising as it is well established within the developmental literature that social comparisons are critical to children’s development and a means by which children learn social information (e.g., Dijkstra, Kuyper, van der Werf, Buunk, & van der Zee, 2008). Additionally, the direction and outcomes of these social comparisons have important implications for children’s affect and self-esteem (Holt & Ricciardelli, 2002).

The concept of social comparison stems from Festinger’s (1954) Social Comparison Theory, which proposes that individuals process social information and evaluate themselves by making comparisons with others. The outcome of the comparison may be favourable or unfavourable depending on whether the target of comparison is perceived to be ‘better’ (upward) or ‘worse’ (downward) than the self in regard to the attribute in question (Buunk & Gibbons, 2007). Individuals engage in social comparisons on a variety of domains including physical appearance, intellectual abilities, physical abilities and other personal qualities. While there are many domains of social comparison, body image research has predominantly focused on appearance-related social comparison. Appearance-related comparisons refer to the act of making comparisons between one’s own body and that of another in order
to gather information about one’s own physical attractiveness (Myers & Crowther, 2009).

A number of studies have examined the association between appearance-related comparisons and body image among adolescents and adults (e.g., Humphreys & Paxton, 2004; Schutz, Paxton, & Wertheim, 2002). Myers and Crowther (2009) conducted a meta-analysis of 170 studies which have examined this relationship. The researchers found that the meta-analysis produced a moderate significant effect, suggesting that engaging in appearance-related social comparisons is related to higher levels of body dissatisfaction among adults and adolescents of both genders. However, the findings also suggest that age and gender may moderate this relationship. The researchers found that there was a stronger relationship between social comparison and body dissatisfaction for women than men. Some researchers argue that men are less inclined to make upward comparisons because the male body has historically been less objectified in the media (e.g. Wykes & Gunter, 2005). Myers and Crowther (2009) also found a small but significant relationship in which the association between social comparison and body dissatisfaction was stronger among younger (aged 12 to 19 years) than older participants. In particular, the researchers argue that middle-school boys and girls may be particularly susceptible to the negative effect of social comparison, as adolescents at this age as they have more opportunities for comparisons with peers.

This trend has been supported by several studies with young adolescents (Krayer et al., 2008; Lawler & Nixon, 2011). For example, Halliwell and Harvey (2006) examined appearance-related comparisons with peers among a sample of adolescents aged 11 to 16. The researchers found that social comparisons with peers were related to body dissatisfaction among both girls and boys. Several additional
studies have also supported this finding among adolescents (e.g., Halliwell & Harvey, 2006; Hargreaves & Tiggemann, 2004; Jones 2001, 2004; Schutz et al., 2002).

Although there is only limited research which has examined the role of social comparisons in the development of children’s body image, it is accepted that social comparisons are a fundamental aspect of children’s cognitive, social and emotional development (Chafel, 1986b). Throughout infancy and childhood the ability for social comparison develops as children increasingly learn about their own abilities, differences, strengths and weaknesses through the use of social comparisons (Chafel, 1986b). Children engage in social comparisons on a variety of dimensions including their physical appearance and abilities. With increasing age, the nature of children’s social comparisons become increasingly evaluative (Dijkstra et al., 2008).

Very young children’s social comparisons are concrete and they are focused on observable differences without evaluation (Mostache & Bragonier, 1981). Between the ages of eight to 10 years old is when social comparisons become more evaluative in nature and frequently used, this is also the time when many children demonstrate a decline in positive self-concepts (Marsh, Barnes, Cairns, & Tidman, 1984; Stipek & Iver, 1989). Children become more adept at making evaluative social comparisons in later childhood, including an enhanced ability to compare themselves in more abstract domains such as performance-related comparisons (Stipeck & MacIver, 1989). Additionally, older children also demonstrate the ability to differentiate the targets of their social comparison. Older children can identify that peers and similar others provide more comparable information regarding their characteristics, rather than adults (Stipeck & MacIver 1989). However, pervasiveness of current media in portraying body ideals as necessary and achievable may mean
that thin celebrities and professional sportsmen have become more likely comparison targets (Obrien et al., 2009). As the ages of eight to 10 are also significant for the development of body dissatisfaction, it is important to examine how social comparisons may relate to children’s body dissatisfaction.

To date there has been very limited research which has examined the relationship between social comparison use and body image among preadolescents. Holt and Ricciardelli (2002) found that both girls and boys between the ages of eight to 10 years engaged in appearance-related comparisons at similar frequencies. The researchers found that 30% of boys and girls aged eight to 10 engaged in social comparisons in regard to aspects of their body including their weight and muscles. Children’s tendency to compare themselves with other children, adolescents and adults was assessed using the Social Comparison Questionnaire (Schutz et al., 2002) and a modified version of the Body Comparison Scale (Fisher, Dunn, & Thompson, 2002). Greater frequency of social comparison use was related to problem eating attitudes, lower levels of self-esteem and higher levels of negative-affect. Specifically, boys made social comparisons with adults rather than children and this tendency was found to predict problem eating, exercising, and muscle concern. In contrast, girls were more likely to make social comparisons with other children, and this was found to be related to problem eating, exercise and muscle concerns. The researchers also found that girls engaged in more weight-related comparisons and boys engaged in more muscle related comparisons.

Subsequent work with boys and girls aged nine and 10 conducted by (Holt, Ricciardelli, & Grogan, 2010) examined the tendency for upward versus downwards appearance comparisons. They found that all children were equally likely to engage in upward and downward comparisons, however, upward comparisons were related
to reduced self-esteem. Consistent with the trends in studies with adults, the researchers also found that girls were more likely to engage in weight-related comparisons and boys were more likely to engage in muscle related comparisons.

In another study, Blowers et al. (2003) examined internalisation and social comparisons in regard to sociocultural influences but only among preadolescent girls. Internalisation was found to be a full mediator of the relationship between media pressure and body dissatisfaction, furthermore social comparisons functioned as a partial mediator between internalisation and body dissatisfaction. These findings are consistent with the Tripartite Influence Model. According to this model, internalisation influences social comparisons whereby individuals who have internalised body ideals are more likely to demonstrate a greater tendency for appearance comparisons (e.g. Karazsia & Crowther, 2009).

Studies have shown that comparisons with peers and media figures are important in the development of body dissatisfaction; moreover they are important for different reasons and in different ways. Social comparisons with media celebrities, who epitomise the appearance ideals, have been shown to predict body dissatisfaction in men, women and adolescent girls and boys (Hargreaves & Tiggemann, 2003; Hargreaves & Tiggemann, 2009; Smolak & Stein, 2010; Tiggemann & Polivy, 2010). This is due to media content being severely biased towards presenting bodies which are largely unachievable by most individuals, thus creating inevitable discrepancies between the targets of comparison, and an individual’s own appearance/body.

Very few studies have examined media celebrities as targets of children’s social comparisons in relation to their body image. Martin and Gentry (1997) found that when young girls (aged nine to 15) compare their physical attractiveness with
advertising models, their self-perceptions and self-esteem were affected. Work with eight year old British girls demonstrated that they were likely to compare their bodies with those of models and film actresses (Grogan & Wainwright, 1996). Only one study was located which has considered media celebrities as targets of preadolescent boys’ social comparisons. Grogan and Richards (2002) conducted focus groups with young boys aged eight years old. The researchers found that young boys were more likely to make comparisons with muscular men in films, rather than with their peers. Previous research examining media-related social comparisons among adolescent boys has produced inconsistent findings. For example, Jones (2001) found that social comparisons with media celebrities were related to body dissatisfaction among boys in grades nine and 10. However, Jones (2004) found that this relationship was not supported longitudinally over a period of two years. Hargreaves and Tiggemann (2004) found that exposure to idealized commercials lead to increased body dissatisfaction among adolescent girls, but not among adolescent boys (mean age 14.3 years). The researchers suggest that the immediate impact of media images is stronger for girls as they may process appearance-related information more deeply.

Social comparisons with peers have also been found to correlate with body dissatisfaction and eating pathology (Stormer & Thompson, 1996). Studies have demonstrated that among an adult sample, exposure to pictures of attractive peers can result in greater body dissatisfaction than exposure to pictures of attractive models (Cash, Cash, & Butters, 1983; Fister & Smith, 2004). This finding has also been replicated with adolescent samples (e.g., Halliwell & Harvey 2006). Developmental research has demonstrated that students prefer to compare themselves to classmates of the same sex and age (e.g., Dumas, Huguet, Monteil, Rastoul, & Nezlek, 2005). Perceived similarity is a strong motivating force between individuals and their comparison targets (Dijkstra et al., 2008). The school context is where children are
confronted with peers who provide social comparison information about domains such as physical appearance, and sports performance (Buunk, Kuyper & Van Der Zee, 2005). Therefore, the school context is important in this respect, as school brings together children who are at similar developmental stages, it fosters observation, judgement, and social comparison (Mueller et al., 2010).

In regard to preadolescent boys, to date there are no studies which have examined both the internalisation of appearance ideal and social comparisons, and how these are shaped by peers and the media factors. Furthermore, although we are beginning to gain a better understanding about these relationships among preadolescent girls, the picture remains unclear. While there are many domains of social comparison (e.g., appearance, school-achievement, behaviours, physical abilities), the domain of appearance is the only domain which has been researched in regard to the development of children’s body image. However, the concept of body image also includes a functional element whereby the perception of one’s physical abilities influences the value that is placed on different aspects of their bodies (Abbott & Barber, 2010). Additionally, social comparisons can be performance based, for example, comparing one’s sporting or physical abilities to that of another person. In particular, preadolescent boys place a greater emphasis on the functionality of their bodies and recent studies have demonstrated important relationships between boys’ body dissatisfaction and their physical abilities (Schur, Sanders, & Steiner, 2000; Olive, Byrne, Cunningham, & Telford, 2012). Sporting competence and evaluation of sporting abilities is achieved via sports/ability-related social comparisons. Therefore, how these comparisons may relate to boys’ body image is an important point of research.
There is a clear need for more qualitative research in this underdeveloped area, as existing work with social comparisons with preadolescent girls has limitations and work with preadolescent boys is relatively sparse. Qualitative work may improve current understandings the ways in which children use social comparisons in regard to the media and their peers. Qualitative studies have been successfully used in this regard by researchers analysing the use of social comparisons in young adolescents’ lives. For example, in a study conducted by Krayer et al. (2008), the researchers used in-depth grounded theory interviews with 12 to 14 year old boys and girls. They found that adolescents spontaneously described a variety of targets, comparison attributes and comparison appraisals. Moreover, peers were found to be an important target for social comparisons and also for making sense of media images and messages. Therefore, peers were not only important in terms of support and companionship, but also in terms of creating, understanding and sharing opinions (Krayer, et al., 2008).

Summary

In recent years, there has been a vast increase in research examining children’s body image concerns, and studies are showing that both girls and boys are experiencing body dissatisfaction (e.g., McCabe & Ricciardelli, 2005). Furthermore, preadolescent boys are showing similar body image concerns to men and adolescent boys. This finding is unsurprising given that boys today are growing up with an unprecedented barrage of visual images and messages related to their physical appearance and growing trends toward objectifying the male body (Farquhar & Wasylkiw, 2007). Researchers agree that like adults and adolescents, children are vulnerable to such societal messages regarding appearance ideals (e.g., Clark & Tiggemann, 2007). However, psychological processes which have been found be
important in understanding body dissatisfaction among older populations, in regard to preadolescent boys and girls are under-researched and have resulted in inconsistent findings. Thus, we do not know how these processes operate in young boys or how they differ from preadolescent girls. Body image is a highly gendered phenomenon whereby traditional gender ideals interplay closely with appearance ideals. Thus, further research need to more fully study how gender ideals may accentuate preadolescent boys’ body image concerns.

Previous studies have largely focused on preadolescent girls. Preadolescent boys’ understanding and interpretations of body ideals, and the ways in which these are shaped by peer and media factors, are not well understood. In regard to preadolescent boys, some researchers have argued that young boys’ voices have not yet been heard on the topic (Birbeck & Drummond, 2006). Other researchers have noted that it is possible that researchers are yet to tap into the media sources and the peer interactions which may be influencing young boys (Ricciardelli, McCabe, Mussap, & Holt, 2009). For these reasons the use of qualitative analysis from a grounded perspective is necessary if we are to more fully understand the meanings and values that young boys and girls place on their bodies, and how these are related to media and peer influence. Such an approach will also help to unravel how internalisation, social comparisons and gender ideal expectations, affect young boys’ and girls’ developing body image and sense of self.
PART 2: A QUALITATIVE STUDY OF PREadoLESCENTS’ BODY IMAGE AND SOCIOCULTURAL INFLUENCES
Overview of Part 2

Chapter 4 details the aims and method of Study 1. Study 1 was designed to extend the current understanding of preadolescent boys’ and girls’ body ideals by examining how these ideals are shaped by media and peer factors. Study 1 was also designed to examine preadolescent girls’ and boys’ use of social comparisons and how this may relate to their body image. These aims were addressed using individual interviews and focus groups with preadolescent children. The procedures for data collection and analysis are also discussed in this chapter.

Chapter 5 presents the results and discussion in regard to the first aim of Study 1, which was to explore preadolescent boys’ and girls’ body ideals by examining by media and peer factors. Results are presented with participant quotations provided as examples to illustrate themes. Three major themes were identified. The first theme highlighted boys’ and girls’ desire for a fit body with little or no fat. For boys, the focus was on function and sport, while girls were more focused on appearance. The second theme emphasised how gendered peer activities help to shape children’s body ideals. The final theme focused on how peers reinforce media messages but also how peers can assist children to critically appraise messages. These three major themes are discussed in relation to previous literature.

Chapter 6 presents the results and discussion in relation to the second aim which was to extend the current understanding of preadolescent girls’ and boys’ use of social comparisons and how this may relate to their body image. The findings are presented in four main sections. These include, children’s ‘comprehension and awareness of social comparisons’, ‘domains of social comparison: appearance versus physical abilities’, ‘targets of social comparisons: peers versus the media’ and ‘outcomes of social comparisons: positive or negative emotions’.
CHAPTER 4

Study 1: Aims and Method

Aims of Study 1

The first aim of Study 1 was to extend the understanding of preadolescent boys’ and girls’ body ideals by examining how these ideals are shaped by media and peer factors. In examining boys’ and girls’ experiences, this study aimed to explore the importance of the role of gender ideals, and how these may underpin peer and media interactions. Secondly, this study was designed to examine preadolescent girls’ and boys’ use of social comparisons and how this may relate to their body image. More specifically, this study aimed to explore the ways in which children compare themselves to their peers and the media celebrities while considering the two domains of social comparison; appearance-related and sports/ability-related social comparisons. This study was also designed to gain an understanding of the direction of children’s social comparisons (upward/lateral/downward) and the emotional outcomes associated with social comparisons (positive or negative). An important aspect of this study was also to examine children’s understanding of the concept of social comparisons and how much awareness children have of their tendencies to compare themselves with others.

Given that there has been limited work with preadolescents in this area, particularly among boys, a qualitative approach using semi-structured interviews was selected for this study. This method allows for more issues that are specifically relevant to the respondents to emerge from the data based on their own experiences (Smith, 2003). In this way, specific issues relevant to preadolescent boys that have yet to be addressed could be identified and examined. Individual and focus group

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1 This study has been published in part (Tatangelo & Ricciardelli, 2013).
interviews were used, as the two methods may provide different, and perhaps complementary, information (Stewart & Cash, 2003). Individual interviews provide a way to probe answers in more depth and ensure that individuals’ viewpoints are taken into account (Ricciardelli, McCabe, & Ridge, 2006). This is especially important in the case of preadolescent boys as their voices have not yet been fully heard (Birbeck & Drummond, 2006). Additionally, focus groups generate more interactive and naturalistic discussion that can lead participants to talk more freely and disclose more about their experiences (Grogan & Richards, 2002; Hargreaves & Tiggemann, 2006). In particular, it was expected that focus groups would help to better understand differences in the lived experiences of boys and girls in terms of how they interact with their peers, including their social comparisons, interpretation of media messages, and the underlying gender ideals.

Method

**Participants.** The participants were 68 primary school children aged eight to 10 years. Mean age for girls was 9.4 years ($SD = 0.72$), the mean age for boys was 9.2 years ($SD = 0.74$). Thirty-six children participated in individual interviews (17 girls and 19 boys), and 32 participated in focus group interviews (16 girls and 16 boys). Children were recruited from four primary schools located in the inner and outer suburbs of Melbourne, Australia. Two of the schools were state public primary schools with 219 and 844 students, and two were private Catholic schools with 226 and 545 students.

**Interviewer/Facilitator.** The individual and focus group interviews were conducted by the present student, a 25 year old Australian female, who had previous experience working with children.

**Procedure.** Approval to conduct the study was obtained from the Deakin University Ethics committee, the Catholic Education Department, and the Victorian Department of Education and Early Childhood Development (see appendices A, B
School principals were sent letters of invitation with information about the study (see appendix D). Parents were then sent information sheets and consent forms (see appendices H and I). Only children who had returned their signed consent forms were invited to participate in the study. Children were told that they would be asked questions about topics including the way they look, body shape, sports and exercise, their friends, and famous people and characters and making comparisons. Children were also told why their participation was desired, that their interviews would be voice recorded, that did not have to participate if they did not wish to, and that they could withdraw at any time. All children agreed to participate, and they were randomly allocated to an individual or focus group interview. There was no incentive for participation for the schools or participants.

The focus groups were each comprised of four, same-gender children. In line with previous research, this number of children was used as it has been found to generate interactive discussion (Gibson, 2007). The interviewer/facilitator was given a list of names of the children who were participating, and from this list children were randomly allocated to either an individual interview or a focus group. Focus group and individual interviews took place during regular class time. Participating children were removed from class and taken to an interview room. On average, each group interview took 45 minutes, and individual interviews took approximately 15 minutes each. The semi-structured interview schedule was developed by the student and the student’s primary supervisor who had previous experience in constructing and conducting interviews of a sensitive nature with children. Question development and selection was based upon a review of existing children’s body image literature and advice from professionals who work with children, including teachers, clinicians, and researchers. The interview schedule included questions which were selected on the basis of their suitability for children aged eight to 10 years and the appropriateness for individual and focus group interview format (see appendix J). Where possible, the questions were asked in an opened-ended way so that children would be likely to focus on their own opinions and their experiences, which were likely related to both their peers and the media. Six pilot interviews were conducted to ensure the concepts and questions were easily understood by the
children. As no problems were found, the interview schedule was not changed.

**Materials.** The general topics covered were body image, body ideals, body dissatisfaction, media consumption preferences, peer relationships and social comparisons. Body image, body ideals, and body dissatisfaction were explored via questions pertaining to the way children viewed their body and what they thought a desirable body shape was for other girls/boys. Media preferences were explored through questions regarding favourite media celebrities, TV shows, and movies. Peer relationships were explored through questions relating to peer activities and the types of topics they talked about with their peers.

Questions regarding social comparisons included topics such as comparison with peers, people in the media, comparisons in regard to sports and abilities, and physical appearance. Questions that required children to comment on their own tendency for comparisons with their peers, or figures in the media were only asked in the individual interviews and not in the focus groups. For example, the following was one such question; ‘Do you ever compare how you look to the way that other children look?’ Such questions were not asked in focus groups as they were considered to be too personal for children to discuss among their peers.

Questions which were used in both the individual and focus group interviews were designed to tap into children’s understanding and use of social comparisons, for example; ‘If a girl/boy was looking at pictures of (insert name of child’s favourite celebrity), how do you think that might make a girl/boy feel about the way that they look, compared to the way that (celebrity) looks?’

The semi-structured interview schedule was used to guide the discussion, and probing questions were added where appropriate. Two questions regarding magazines and electronic gaming were removed as these failed to elicit meaningful responses after seven individual interviews and four focus group interviews. Additionally, one question was added about fitness, as this was spontaneously
brought up in several of the first seven interviews. Each session was audiotaped and transcribed verbatim. Pseudonyms were assigned to protect participants’ anonymity.

**Data Analyses.** Techniques from grounded theory analysis were used to analyse the data (see Strauss, 1998). Grounded theory analysis allows for a recursive process between data collection and analysis. This method of constant comparison allows for generated theories to be ‘grounded’ within the context of the data themselves, rather than being driven by specific hypothesis specified before the data were collected.

To begin this process the student familiarised herself with the transcripts and began studying, sorting, and synthesising the data by systematically line-by-line coding. During this process, reflective notes and memos were taken about the codes as initial planning for potential themes. Ideas were gradually defined into categories that best fit together, as the data were organised into tentative thematic categories. This involved the identification of recurring themes and developing a theory to explain these data as it led to the development of theoretical categories.

To ensure consistency, each transcript was coded several times before final thematic categories were decided upon. Regular meetings were held between the student and the primary supervisor to discuss themes and interpretations until final themes were agreed upon. In addition, a female graduate research assistant, who was experienced in the area of qualitative data analysis with children, independently coded four individual and two focus group interviews. A good level of inter-rater agreement between the researchers and the research assistant was found (83.8%).
CHAPTER 5

Results and Discussion: Children’s Gendered Body Ideals and Sociocultural Influences

Chapter 5 presents the results and discussion in regard to the first aim of Study 1, which was to explore preadolescent boys’ and girls’ body ideals by examining by media and peer factors. Three major themes were identified. The first theme ‘Gender Ideal Differences in Thin, Not Fat, but Fit’, highlighted boys’ and girls’ desire for a fit body with little or no fat. For boys, the focus was on function and sport, while girls were more focused on appearance. The second theme was labelled ‘Gendered Peer Influences.’ This theme emphasised how gendered peer activities help to shape children’s body ideals. The final theme, ‘Peer Influences on Media Messages’ focused on how peers reinforce media messages but also on how peers can assist children to critically appraise messages. Quotes from both types of interviews are used to provide examples. FG is used for the focus groups and II is used for the individual interviews.

Gender Ideal Differences in Thin, Not Fat, but Fit

Common to both boys and girls was a preference for a leaner figure rather than an overweight body shape, as well as a strong dislike for being fat or overweight. When asked how they would feel if they realised they had lost weight, all children in the eight focus groups and the majority of children in the individual interviews (12 girls and 13 boys) indicated they would feel positive. For example, one boy from an individual interview commented that he would feel ‘good and happy, excited’ (Jim, II) if he lost weight. In addition, when asked how they would feel if they put on some weight, boys and girls responded negatively, using words
such as ‘sad’ (Emma, II), ‘embarrassed’ (Laura, II), ‘ticked off’ (Mark, FG) and ‘scared’ (Tom, FG).

Nine girls from the individual interviews and girls from three focus groups discussed the importance of thinness. For example, one girl commented that she thought the best type of body shape for a girl was ‘skinny and really pretty’ (Amy, FG). Other comments included the following:

Julie (II): I think it’s important to be a little bit skinny.
Helen (II): I am sort of glad I am skinny and not too fat.

Girls also gave appearance-based concerns in response to the question: ‘Why might a girl want to lose weight?’

Molly (FG): To look good.
Kim (FG): So that when they are in bathers [bathing suits] they don’t have blubber hanging over their undies.

In contrast, beyond boys’ explicit dislike for fat, they had some difficulty in describing the degree of thinness they desired. The term ‘skinny’ was viewed as being too thin, while ‘slim’ or ‘thin’ were not words that they generally used. Rather, boys chose to use words such as ‘medium,’ ‘normal,’ and ‘average.’ Furthermore, boys in three focus groups and 10 boys in the individual interviews stated that they would not want to be too skinny as illustrated by the following examples:

Max (II): I don’t want to be too skinny, I want to be normal, and I want to be average.
Ryan (FG): I don’t want to get too fat and I don’t want to be too skinny.

Another term which was frequently used by both boys and girls to describe an ideal body was ‘fit.’ Girls and boys in all of the focus groups, and nine girls and 12 boys from the individual interviews saw fitness as equating with having little body fat. For example, when trying to describe an ideal body shape for boys, one boy
commented that he wanted to look, ‘Just fit, as in not fat or overweight’ (Michael, II). Fit was also used to describe what was viewed to be a very desirable physical characteristic and ability, and as the opposite of being fat and lazy. For example:

Jim (II): You play sport and you’re not fat.

Joel (FG): Healthy, and more active. If you’re fat you can’t do as many sports and if you’re fit you can do many sports.

Linda (II): You’re not lazy and able to move around like you want to, and you’re a bit skinnier.

Emily (FG): I can tell you something that is not fit, that is people who are fat.

While the desirability of fitness was endorsed by both girls and boys, for boys in particular, fitness was linked with sporting abilities and muscularity:

Adrian (FG): If you’re fit you can run really fast, but if you’re chubby you can barely walk.

Andrew (FG): If you weren’t fit you wouldn’t have these [biceps]

Boys in all four focus groups and 10 of the boys in individual interviews stated they would be happier if they were more muscular. The most common reason for this was to be stronger and/or better at sports, as explained by the following boys:

Tony (II): You’d be stronger and you could kick further in football.

Clark (FG): Well then you can do everything, you can run further, you can swim further and you can do more things. If you’re like, normal, with normal muscles, you can still do things, but you can’t do as much.

When girls were asked about the importance of muscularity, girls in two of the focus groups and six of the girls in individual interviews stated that they did not care. Girls in one focus group stated that muscles were for boys, and that they thought it would be unattractive for a girl to have muscles:

Annie (FG): It would be weird because you would be a girl and you would have lumps all over your stomach, it’s weird.
Nicole (FG): I’d feel like a boy.

Girls in the other focus group and five of the girls in individual interviews said they would be happy to have some muscle, as it would enable them to do sports and physical activities more easily:

Tammy (FG): It’s good when you’re running because the power in your arms makes you go faster.

However, girls did not want too much muscle because it would be unattractive:

Georgia (FG): Well I wouldn’t want too much muscle, like footballers [football players].

**Gendered Peer Influences**

Girls’ and boys’ lunchtime activities with peers were highly gendered, and these were influential in shaping the culture underlying their body ideals. Sport was the major activity with peers at lunchtime for all boys in the focus groups and 13 of the boys in individual interviews. In addition, there was an expectation for boys to play sport with their peers at school. Boys in two of the focus groups and three boys from individual interviews stated that all or most of the other boys in their year level played some form of sport during lunchtime at school, with the most popular sports being Australian football and soccer. For example, two boys commented:

Joseph (II): All the boys play sport at lunch time; it’s just what you do.

Steven (FG): All the boys play sport at lunch time. You should see how many boys are playing footy on the oval at lunch.

Boys in all four focus groups highlighted the importance of sport for attaining the fit ideal. In several cases boys also compared and boasted about their sporting behaviours with their male peers, as illustrated by the comments below:

Steven (FG): I play sport every single day of the week except Monday.

Adam (FG): I play every day except Friday and Saturday.
Clark (FG): I’ve only got Tuesdays off, I do sport every other day.

Steven (FG): I love sport. I love sport more than you love your parents.

Facilitator: Why do you love sport so much?

Steven (FG) It gets you fit.

Boys further reported pressure and social consequences for being good or bad at sports. Boys in one focus group and three boys in individual interviews discussed how they felt judged and excluded by their male peers because they were perceived as being weak, poor at sports, and not fit:

Phillip (FG): The boys wouldn’t let me play soccer with them because they always thought I was weak.

Aaron (II): I remember in year two when I wasn’t the best, but I also didn’t really like sports so I would play different games, and the other [boys] sometimes judged me.

Brett (FG): People might say some mean things if you aren’t fit.

On the other hand, being better at sports and being fit were associated with being popular among peers as illustrated by two boys:

Chris (II): If you’re not good at sports, you’re not that popular at school…and if you aren’t good at sports, it means that you’re not really popular.

David (II): If you want to be popular and represent the school in running, then you have to be fit.

The importance of being good at sport for boys and the culture it promotes was also noted by girls. This is illustrated in a conversation below where girls in one focus group discussed a boy who was teased by the other boys because he did not like sports:

Carla (FG): It doesn’t really matter [if you’re good at sports] when you’re just playing with girls, but the boys really care and they tease.

Amy (FG): They [boys] are extremely competitive.

Jade (FG): They [boys] think sport is the best.
Carla (FG): Well there is one boy who isn’t extremely competitive, and he plays with the girls.

Bridget (FG): Yes, he hates sports.

Amy (FG): He is teased a lot, and that’s by the boys mainly.

In contrast to boys, 13 girls from individual interviews and girls from two focus groups indicated that they spent little time engaged in sport-related activities and placed less importance on sports and physical abilities. For example one girl explained:

Carolyn (II): How well you can play sports is not really that important, as long as you try and have fun.

Girls’ lunchtime activities primarily included time spent talking to friends as described by the following girls:

Sandra (FG): We usually just walk around or sit down and talk.

Danielle (II): We do different things at lunch time, sometimes we walk around the school and just talk to each other.

Although girls in the individual interviews were not able to clearly articulate what they talked about (i.e., ‘We talk about stuff and life in general’ Hannah, II), it was clear from all four focus groups that they readily engaged in ‘appearance talk.’ This is illustrated by the following focus group discussion:

Amy (FG): I actually don’t like the way I look, I think I look very ugly.

Bridget (FG): Yeah, she calls herself a fatty boomba.

Carla (FG): Well I think my hair is super ugly and my teeth are too big….I’d like to look like Pink because she has radical pink hair.

Bridget (FG): I don’t like these freckles, they’re evil and I want to get rid of this [birthmark] on my arm which is disgusting and I hate it.

Amy (FG): Oh and I would like to get rid of this [pulls at hair on legs]

Bridget (FG): Yeah, we are hairy!
In line with the above ‘appearance talk,’ girls in all four focus groups and eight girls from individual interviews acknowledged the peer pressure associated with looking good, and pointed out how girls would be teased and experience other negative consequences if they did not meet this standard. For example, girls in two focus groups made the following comments about the importance of looking good in order to avoid being teased and fitting in with an appearance oriented culture:

Bridget (FG): If you look bad, people will tease you and make fun of you.
Carla (FG): It’s good to look nice, because otherwise people might think you’re a complete weirdo.
Amy (FG): If don’t look good, then you’ll feel like you’re really ugly and then you’ll be really embarrassed.
Emily (FG): If you’re fat you can get teased so they don’t want it because they don’t want to get teased.
Mia (FG): Well if you look bad people tease you and make fun of you.

Other examples of girls’ ‘appearance talk’ focused on media celebrities, and these are documented in the next section.

Peer Influence on Media Messages

The focus groups further highlighted the ways in which media messages were reinforced by peers. Firstly, girls in three focus groups and nine individual interviews indicated that their favourite celebrities were typically actresses and singers, who embodied the thin ideal. For example, in one of the girls’ focus group interviews, the following conversation ensued about female celebrities:

Stephanie (FG): All female singers are really skinny.
Kate (FG): Feels like they have to be.
Facilitator: Why?
Kate (FG): To look good.
Emily (FG): Their clothes might not fit if they’re fat.
Facilitator: What do you think would happen if they gained weight?

Stephanie (FG): They wouldn’t be as popular because people like celebrities for the way they look.

As illustrated by both the above and the following quotes, an important topic for girls when conversing with peers was the looks of their favourite celebrities:

Molly (FG): We do talk about singers we like and how cool they are…sometimes the clothes they wear because they’re really cool.

Mia (FG): We talk about their [famous female celebrities] hair and what they wear.

Media-related conversations were also an important aspect of boys’ peer interactions; however, these were largely focused on sport-related media. Twelve of the boys in the individual interviews and boys in three of the focus groups stated that their favourite celebrities were sportsmen. Sports games and programs were also the most popular television programs boys watched, as illustrated by the following focus group:

Mark (FG): Soccer, soccer, soccer!

Harry (FG): Yes, football and soccer and rugby.

Joel (FG): In footy [football] season, definitely footy, then after cricket seasons are over, then basketball or soccer.

Mark (FG): Yeah soccer and basketball, but any sport that’s on I like to watch.

Harry (FG): I’m begging mum to get Foxtel² so we can have Fox Sports.

Although some boys liked other celebrities such as actors or singers, they were quick to state that they did not discuss these celebrities with their peers.

However, many of the boys’ conversations with their peers were specifically about sports and sportsmen, as illustrated with these examples:

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² Foxtel is an Australian pay-per-view television company which includes 16 channels dedicated to sport.
Steven (FG): We talk about footballers, and what they’re doing, like if they are moving teams and what happened on the weekend, and sometimes we tease the people who go for the losing team.

Brett (FG): At school on Monday mornings after football on the weekends, I often talk to my friends about it, and after a cricket game on the weekend like a 20-20 game or a one day game or a test, we usually, my friends and I, talk about it.

Sportsmen were admired for their skills and abilities. Boys rarely mentioned the appearance of their favourite sportsmen and they were adamant that they did not discuss the appearance of these men among their peers. Even when asked to describe the physical appearance of these men, several boys focused more on the skills or abilities of the person in question. For instance, when asked to describe the appearance of his favourite footballer (i.e., football player), one boy commented:

Jake (II): Well, Chris Judd [AFL footballer³]. He is bald, and he is from Carlton. He is number five, and he is the captain, and he is a really good captain, and he is not like a bad captain that does nothing.

Similarly, in another case, a boy was focused on the muscularity of his favourite sportsman but again this was closely linked to his sporting ability and not his appearance:

Tim (II): I’d like to look a bit like Darrel Thomas [AFL footballer]. He has a lot of muscle and he is good at football, cricket, tennis and swimming.

Children also highlighted how their peers tried to copy celebrities. Specifically, girls in three focus groups and nine girls in individual interviews mentioned that they or their peers copied celebrities’ hair-styles, clothing, mannerisms and singing. For instance:

Kim (FG): Yes they copy them [celebrities]. They sometimes do; well they try to, and they try to wear clothes like what the famous person would wear.

Hannah (II): Some people I know-yes [copy celebrities], and well, I think that they like them and admire them and want to be like them.

³ Australian rules football (AFL)
Similarly, the boys in three focus groups and 10 boys in individual interviews stated that they or their peers tried to copy sportsmen, as illustrated below:

Harry (FG): They try and copy what they do, like one person from my class; he tries to be like a player from Brisbane.

Damien (II): Lots of people want to copy [sportsmen], like Mitchel Johnson.

Finally, peers were also influential in assisting children critique media messages. For example, in one of the focus groups, the discussion about sport led boys to question the advertising of sport drinks as beneficial, given their high sugar content:

Facilitator: How do you think you would feel if you realised you had put on some weight?

Steven (FG): I don’t think I’d feel too well if I put on weight, because I’m always doing sport so if I did, I would think I wasn’t doing enough.

Clark (FG): That’s why I don’t drink PowerAde and Gatorade, because with footy, they show the players holding [the drinks] but the players wouldn’t drink them. They show them holding it and pouring it into their mouths but I don’t think they drink it. I think it’s just sponsors are the reason. Because it’s not that good for you, it’s just sugar.

Adam (FG): Yes, definitely not AFL players. It’s [the drink] just sugar. That’s why I don’t drink Gatorade and PowerAde.

In a similar way, discussions of media celebrities led girls to acknowledge that they have had make-overs and that their natural looks were more flawed. For example:

Facilitator: Is there anyone you can think of, famous person or normal person that you would like to look a bit like when you’re older?

Annie (FG): No

Sandra (FG): I just want to be myself

Nicole (FG): I might just cut out a picture from a magazine and put it on my face.
Annie (FG): To me when I look at celebrities, I know that they have had a makeover.

The critical evaluation of media celebrities was also illustrated in another of the girls’ focus groups:

Facilitator: How do you think celebrities and famous people influence the ways that girls your age feel about themselves?

Jade (FG): I’ve seen celebrities without make up and they have spots and stuff on their face

Bridget (FG): Yeah you look at them without make-up and it’s yuk.

Discussion

Given that there has been limited work with preadolescent boys, the main focus of this study was to increase the understanding of preadolescent boys’ body ideals, and how these are shaped by peer and media influences. In addition, girls were included so that their experiences could be compared to boys. The individual interviews allowed children’s answers to be questioned in more depth; however, at times, children were not able to fully articulate their views. The advantage of the focus groups was that they enabled direct examination of some of the interactive and naturalistic discussions which clearly demonstrated how peers create and promote the norms surrounding body ideals. Contrasts between boys’ and girls’ experiences further demonstrated the important role of gender ideals, and how these underpinned peer and media influences. Several findings highlight what was already known about the differences between boys’ and girls’ body ideals; however, given the rich data collected from both the individual and focus group interviews, these differences were documented in more detail.
Body Ideals

This is the first study to highlight the importance that both preadolescent girls and boys attach to the fit ideal. Boys often chose the term ‘fit,’ as it described an ideal body which encompassed their dislike of fatness, the importance they placed on physical abilities, and their preference for musculature. Girls were also eager to endorse the importance of being and looking fit, and like boys they described a fit body as one which has little body fat, is not lazy, and is good at sports.

Grogan and Richards (2002) found that fitness was an important aspect of adolescent boys’ and men’s body ideals but fitness was less relevant for preadolescent boys, and no previous study reviewed has examined preadolescent girls’ perceptions and/or endorsement of the fit ideal. However, the recent popularity of media programs, such as the Biggest Loser and weight loss programs, which endorse the importance of fitness and contrast this with the unacceptability of being fat or overweight, all promote the fit ideal for both men and women. Moreover, recent studies are showing that adult women also value a fit and athletic body (e.g., Homan, McHugh, Wells, Watson, & King, 2012). It is these recent trends, which may explain the greater than expected emphasis that some girls in this study placed on fitness and sport, and serve to further strengthen the emphasis that boys place on the functional aspects of the body.

While being fit and not fat was important for both girls and boys, girls did not want too much muscularity, and in line with previous studies, the girls in the current study primarily valued thinness (e.g., Clark & Tiggemann, 2006). Similarly, while boys disliked fatness, they did not want to be too thin. Boys wanted to be ‘normal’ and ‘average’ but at the same time and in line with previous studies, boys in the current study also valued muscularity (e.g., Birbeck & Drummond, 2006; Grogan &
Richards, 2002; McCabe & Ricciardelli, 2003). This parallels the ideal of ‘lean muscularity’ found among adolescent boys (Leon et al., 1999), and the lean and moderately muscular body ideal endorsed by adult males (Grogan & Richards, 2002; Ridgeway & Tylka, 2005).

**Peer Influences**

This is also the first study to examine how peers may influence preadolescent boys’ body ideals using semi-structured interviews. This method was specifically chosen as it was expected that it would provide boys with an opportunity to focus on their own experiences and allow their voices to be more fully heard (Birbeck & Drummond, 2006). In line with these expectations, it was found that boys wanted to mainly talk about sport, and it was this sporting culture that shaped their body ideals pertaining to fitness and muscularity. This sporting culture dominated boys’ conversations with peers during the focus group discussions and those they reported during school lunch times. Above all was the importance and expectations attached to playing sports with males peers. Dynamics within boys’ focus groups also demonstrated the intensity with which boys endorsed the importance of sports. Fuelled by encouragement and acquiescent remarks from their peers, boys stressed the importance of participation in sports for promoting fitness and muscularity. These attributes were seen to be important for peer popularity and acceptance, and as a way of avoiding social exclusion. Individual interviews also verified the peer pressure experienced by several boys, which specifically focused on their sporting and other physical abilities. Furthermore, even girls noted the pressure that the boys place on each other in regard to sports and abilities.

Other studies have shown that sport is an important socialising activity for preadolescent (Ewing, Gano-Overway, Branta, & Seefeldt, 2002) and adolescent
(Ricciardelli et al., 2006) boys, and that sporting ability and performance are important ways in which boys establish a sense of masculinity (Birbeck & Drummond, 2006). Using their bodies as a means of expression, they can assert their masculinity within their peer group by displaying their physical capabilities which include running fast, being strong and being good at football (Birbeck & Drummond, 2006). Previous studies have also shown that gender norms and expectations are enforced and sanctioned by peers (Lee & Troop-Gordon, 2011). For example, even among school-aged children adhering to gender norms is a predictor of popularity (Lee & Troop-Gordon, 2011). Importantly, pressure from peers to adhere to such norms (e.g., increasing muscle) has been associated with body dissatisfaction among adolescent boys (Smolak & Stein, 2006; Smolak et al., 2005).

In line with previous research, girls readily engaged in appearance-related conversations among their peers, and these were related to their body image concerns (e.g., Clark & Tiggemann, 2006). However, no evidence was found of any such ‘appearance talk’ among the boys. Boys were also adamant that they did not discuss appearance-related topics with their peers. In contrast, in a survey study of adolescents, Jones and Crawford (2006) found that boys engaged in more appearance-related conversations than girls. For boys these appearance-related conversations specifically focused on muscle building while girls’ conversations focused on weight loss. Although muscle-building conversations did not feature among boys’ interviews in the current study, sport and fitness conversations did, so these may be a precursor to later development of appearance-focused muscle building conversations. However, as ‘appearance talk’ has not been previously examined among preadolescent boys, findings need to be verified using both qualitative and quantitative methods.
Peer Influence on Media Messages

This study also highlighted how peers influence the way in which both boys and girls relate to media messages. Although boys and girls focused on different media targets, peers appeared to both reinforce and help critically evaluate media messages.

In line with the sporting culture that shaped their body ideals, boys’ favourite and most talked about celebrities were sportsmen. Singers and actors were mentioned less often, and male models and body builders were not mentioned at all. Boys spoke at length about sportsmen, and the main focus was on their physical skills rather than their appearance. Sports and sportsmen were also the most common form of media that boys talked about, admired and copied, as highlighted in both the focus group discussions and the conversations that boys reported among their peers at lunchtime. While the athletic-culture among boys and their peers is well documented (e.g., Adler, Kless, & Adler, 1992), how this peer-culture is influenced by boys’ affinity to sporting celebrities has not been examined. Further research which examines how boys model their sport heroes is needed in order to better understand how this may relate to the development of boys’ body ideals and their body image concerns.

A similar interaction between media and peer influences was observed for girls. Girls indicated that their favourite media celebrities were most often young singers or actresses, and girls discussed these celebrities among their peers during the focus groups. Other studies have also highlighted that the influence of the media is reinforced by peers. For example, Milkie (1999) conducted individual interviews with adolescent girls who reported that they were not directly influenced by media ideals, but felt pressure to meet these because their friends believed in these ideals. Similarly, Clark and Tiggemann (2006) found among girls aged 9-12 years, their
exposure to appearance-focused media was not directly related to their body dissatisfaction, but it was indirectly related via their conversations about appearance among peers.

Although this study showed that peers are influential in reinforcing the importance of appearance ideals conveyed by the media, some instances in the current study also indicated that peers can assist in critiquing media messages. For example, in one focus group, boys were critical of sportsmen’s endorsement of sugar-filled sports drinks, as they were aware that these drinks are at odds with the pursuit of fitness and health. Similarly, during focus group conversations, girls identified the fact that their favourite celebrities were slim, attractive and had the potential to make other girls’ feel bad about their own looks. Girls also discussed the ways that celebrities are made-up to look the way they do with the help of designers and make-up. Previous studies have demonstrated similar trends with adolescents. For example, Krayer et al. (2008) demonstrated that the media were a critical influence in the lives of adolescents, yet peers played a significant role in making sense of and negotiating media messages. The critical evaluation of the media was an unprompted topic to emerge in some of the focus groups. Further studies are needed to more fully investigate the extent to which peers can assist preadolescent boys and girls more fully appraise media messages and promote media literacy among this age group.

By the age of eight, boys and girls already have complex body ideals which are clearly shaped by their peer culture and gender ideals. Preadolescent girls are embedded in an appearance culture, while boys are embedded in a sporting culture, but both are reinforced directly and indirectly by their peers and the media.
A key aspect of peer and media influence, is that peers and media targets provide social comparison information about domains such as physical appearance, and sports performance (Buunk et al., 2005). Social comparisons have been found to be one of the most important processes in the development and maintenance of body dissatisfaction among adults and adolescents (Stormer & Thompson, 1996). However, in regard to children, research examining this process is sparse and has resulted in inconsistent findings. This is surprising as it is well established within the developmental literature that social comparisons are critical to children’s development and a means by which children learn social information (Dijkstra et al., 2008). Additionally, the targets, direction and outcomes of these social comparisons may have important implications for children’s affect and self-esteem (e.g., Holt & Ricciardelli, 2002). Chapter 6 examines the ways in which children use social comparisons in regard to their peers and the media.
CHAPTER 6

Results and Discussion: Children’s Body Image and Social Comparisons

Chapter 6 presents the results and discussion in relation to the second aim of Study 1 which was designed to extend the current understanding of preadolescent girls’ and boys’ use of social comparisons and how this may relate to their body image. The findings are divided into four main sections. These include children’s ‘comprehension and awareness of social comparisons’, ‘domains of social comparison: appearance versus physical abilities’, ‘targets of social comparisons: peers versus the media’ and ‘outcomes of social comparisons: positive or negative emotions’.

Comprehension and Awareness of Social Comparisons

Several children in the individual interviews had difficulty understanding the concept of ‘social comparisons’ (five girls and six boys). They asked for the social comparison questions to be clarified or repeated, and some children initially misunderstood these questions entirely. For example,

Interviewer: Do you ever compare the way you look to the way other children look?

Nadia (II): Yes when someone has a nice top I tell them that’s a really pretty top.

Additionally, children often had limited awareness of their social comparison use. Children often denied comparing themselves with their peers, yet made spontaneous comparisons to their peers in conversation during the interview. These inconsistencies were most frequent in regard to appearance-related comparisons. For example, when asked if they ever compared their appearance to other children, 11 girls and 13 boys in the individual interviews indicated that they did not, as illustrated by the following examples:
Annette (II): Not really, I really try not to compare myself with smartness and good-looking-ness. I care more about my school work than what I look like.

Terry (II): No, other boys see me as a leader.

It is also noteworthy that four children (two girls and two boys) requested to skip this question entirely, indicating that they were not comfortable answering it. Of the children who denied comparing their appearance, almost half of the girls and three boys went on to make spontaneous appearance-related comparisons to their peers at other times during their interviews. For example:

Megan (II): No I don’t. [Compare her appearance]
Interviewer: Is there anyone who you would like to look a bit like?
Megan (II): I think Grace is really pretty…she is tall.

Sports-related comparison questions were generally more easily answered than appearance-related questions by both girls and boys. Additionally, the answers provided by the children were generally more consistent with their latter answers, whereby the boys and girls who made spontaneous sports-related comparisons, also said that they did compare themselves on this domain. However, some inconsistencies were also observed, in regard to sports comparisons. A small number of children who stated they did not compare themselves in these domains, made spontaneous comparisons during their interviews. For example:

Interviewer: Do you ever compare how well you play sports in to the way other children your age play sports?
Laura (II): No
Laura (II): Sometimes I feel, like when I’m running I’m not as fast as (other children), and I think ‘is that because of me, or my legs, or is it because they run longer’.

Children’s awareness of their tendency to compare themselves to their favourite media celebrities was more difficult to ascertain. Children generally stated
that they did not compare themselves to their favourite celebrities. Of these children, only a few spontaneously compared themselves to media celebrities during their conversations. The following is one such instance:

Interviewer: Thinking of those famous girls, do you ever compare the way you look to the way that they look?
Kiara (II): No
Interviewer: When you’re grown-up, say like my age in your twenties, what would you like to look like?
Kiara (II): Like Celina Gomez [actress].
Interviewer: What does she look like?
Kiara (II): Really pretty, brown curly hair she is in lots of movies… she is medium height and very thin.

Despite this, many boys and girls gave in-depth and insightful answers to more indirect questions on the topic. For instance, when asked to comment hypothetically on how a boy/girl might feel if they were thinking about the way they looked in comparison to their favourite celebrity, children demonstrated a good understanding of the outcomes associated with this comparison. Children indicated that they were familiar with this type of comparison and therefore this may indicate that children engage in them unconsciously. This is discussed in more detail in the last section of this chapter.

**Domains of Social Comparison: Appearance Versus Physical Abilities**

Throughout the individual and focus group interviews, girls made more appearance-related social comparisons than boys. Fifteen girls compared themselves to their female peers in regard to aspects of their appearance including their weight, body shape, clothing, hair, and prettiness. For example:

Kim (FG): I want to look like Mia and Mia wants to look like me. She thinks that I’m pretty but I don’t think I’m pretty, I think she’s pretty. She doesn’t think she is pretty.
Only two girls engaged in downward appearance comparisons with their peers. The majority of appearance-related comparisons with peers were either upward or lateral comparisons. Girls were often self-critical and compared themselves to their peers in such a way as to put themselves down whilst complimenting their peers who were sometimes present in the focus group. The following are two examples:

Amy (FG): I want to look like (her friend). I actually don’t like the way I look, I think I look very ugly.

Jade (FG): I have always wanted (her friend’s) long hair, but my hair is all fuzzy.

Apart from upward comparisons, girls were equally likely to engage in lateral appearance-related comparisons with their peers by highlighting the similarities and differences between themselves and their peers as illustrated by this example:

Lucy (II): I’d say I’m a mix between all of my friends, like I have similar shoes to one of them and the same type and colour of hair as another.

Girls discussed appearance-related social comparisons at length and could give detailed reasons why another girl might compare herself. In these discussions, a thorough understanding of the concept was evident. For example, the following statements were made by girls from two focus groups in relation to why another girl might want to lose weight:

Kate (FG): It might have been something someone said, but might be if they just looked at someone and thought ‘they look really skinny and pretty’ and they think they’re fat or plump-ish and then they might want to be more like them so they go on a diet to look more pretty and be included.

Amy (FG): I think people go on diets because they compare themselves to others who are much more thin or fitter or healthier, and they think ‘I want to be like that person because they are healthy and popular’. So they go on a diet and then in the end it might get them more friends and they won’t be as lonely and as uncomfortable as being themselves.
Boys in the focus group interviews made fewer appearance-related comparisons. Overall six boys made appearance-related social comparisons with their peers. Notably, the boys’ appearance-related social comparisons were most often lateral, in which the target was not perceived to be better or worse. For example:

David (II): From other people I look good. To some other kids, I’m better than them; and some other kids are better than me.

The boys in the current study did not spend time discussing why other boys may engage in social comparisons. Boys typically stated that they did not know or gave short, non-descriptive answers.

Facilitator: Why might a boy compare the way he looks to the way his friends look?
Ryan (FG): I don’t know
Noah (FG): I don’t know either: well maybe if the other boy was hot (attractive).

The most frequent type of comparison made by boys was in regard to sports and physical abilities. The boys made more ability or sports-related social comparisons than appearance-related social comparisons. When the boys in the individual interviews were asked directly about whether they compared themselves to their peers in terms of sports abilities, 12 of the boys commented that they compared themselves. For instance:

Interviewer: Do you ever compare how well you play sports in to the way other children your age play sports?
Hamish (II): Yes because sometimes I play basketball and when other players get goals I compare their tricks with mine
Oscar (II): Yes, I think I probably play as a 10 year old. Some people try to play as if they are in grade 5 or 6.

Overall, 21 boys made sports/abilities social comparisons in relation to their peers. These comparisons were in regard to a variety of sporting abilities including
strength, exercise, speed, endurance, time spent training, football abilities, cricket abilities and basketball abilities. For example:

Brett (FG): I’m probably one of the best at footy, not the very best but my best sports are footy and cricket.

Andrew (FG): I’m probably the best batsman on our team, but out of everyone I’m probably first or second.

Tony (II): I am super-fast, but Dan is the fastest and Jim, Dan and Tim are the fastest guys in my class.

In regard to sports/ability social comparisons, boys engaged in both downward and lateral comparisons with their peers at similar frequencies. For example, in one focus group, boys discussed their sporting skills by highlighting and comparing their strengths during focus group discussions:

Mark (FG): I’ve never come less than fifth in the cross country and in the national cross country, out of 700 people, I came ninth this year.

Jason (FG): (In response to Mark), In Bendigo you came 24th, I got 18th and you got 24th, I beat you, I flogged you!

On the other hand, four boys did engage in upward comparisons by comparing themselves to other boys who they viewed as being superior to themselves. For example, when Jared was asked whether he ever compared how well he played sport with how well his peers played sports, he responded:

Jared (II): Yes sometimes, mostly with other people who are good.

Interviewer: How does that make you feel?

Jared (II): A bit jealous because they are better than me.

Girls in the individual interviews generally stated that they did not compare their own sporting abilities with that of other children. In the individual interviews, three girls stated that they compared their own sporting abilities to that of their peers. Five girls made spontaneous sports/abilities related comparisons. Of these
comparisons, girls generally commented that they were about average compared to their peers. For example, in her individual interview one girl stated:

Samantha (II): I think some children do it (sport) a bit better, but I think I’m still a bit good because when we did our cross country I came sixth, so I think I’m ok with sport but other people are still better.

**Targets for Social Comparisons: Peers Versus Media**

Across individual interviews and focus groups, peer comparisons were more common than media for girls and boys. Boys and girls frequently engaged in spontaneous comparisons on a range of domains during their interviews. However these spontaneous comparisons were generally made in regard to peers rather than media celebrities. Additionally, when children in the individual interviews were asked whether they compared themselves to their favourite media celebrities, children generally indicated that they did not.

Boys’ favourite and most talked about celebrities were often sportsmen. Boys frequently discussed these men and their skill throughout all four focus group interviews, however comparisons with these men were made less frequently than comparisons with peers. Overall, five boys compared themselves to their favourite celebrities. For example, one boy compared his appearance to his favourite celebrity:

Interviewer: Is there anyone you would like to look a bit like when you’re older?

Tony (II): Heath Shaw from Collingwood.

Interviewer: What is it about him?

Tony (II): He is well built and good looking.

Of the boys who did compare themselves to their favourite sportsmen, four of these were made in regard to physical abilities, sportsmanship or their vocation. For example:
Interviewer: Do you have any favourite famous people?

Jake (II): Any Carlton player

Interviewer: Do you ever try and copy people like that - like footballers?

Jake (II): I think so and three of my best friends certainly do, they follow football like me and five people in this school including me play in a team all together and some other friends play in a different team... We like playing markers up where we kick the ball and try to mark it like them.

Interviewer: How do you think you would like to look when you’re a bit older?

Jake (II): I want to be wearing a Carlton jumper with a ball in my hands.

Girls’ favourite celebrities were most often singers and actresses, whom they often described in terms of having an attractive or desirable appearance. For example, one girl in an individual interview described her favourite female singers and actresses as:

Danielle (II): Their clothes are all really nice and they’re all really pretty.

For the girls in the current study, the targets for spontaneous comparisons were more often peers than media celebrities. However, six of the girls also made spontaneous appearance-related comparisons with female celebrities. For instance:

Carla (FG): Well I think my hair is super ugly and my teeth are too big....I’d like to look like Pink because she has radical pink hair.

Molly (FG): Like the grown-up Hermione from Harry Potter, I think I’d be happy with myself then, she doesn’t have any freckles and I have freckles and my sister teases me.

Overall, girls clearly demonstrated a familiarity with media comparisons and what the outcome of such a comparison might be for another girl. For example, one girl stated:

Kim (FG): When you get older and you read more magazines where you see celebrities who are like that thin and you start feeling
jealous and you think, I want to be that thin and then you go on diets and you don’t eat anything.

However, most girls in the individual interviews (11) stated that they did not compare their own looks with the looks of female celebrities. During focus group discussions, some girls elaborated on this and indicated that celebrities were unrealistic targets for comparison. For example, in one focus group, girls discussed the inappropriateness of trying to copy their favourite celebrities:

Emile (FG): Sometimes I think it’s easier to copy friends.
Stephanie (FG): Because celebrities have designers.
Jade (FG): I’ve seen celebrities without make up and they have spots and stuff on their face.
Bridget (FG): Yeah you look at them without make-up and it’s yuk.

Outcomes of Social Comparisons: Negative and Positive Emotions

When the children in the individual interviews were directly asked if they compared themselves to their favourite same-gender celebrity, most children stated that they did not. Despite this, many children gave in-depth and insightful answers to more indirect questions on the topic. For instance, in response to more indirect questions, children demonstrated an understanding of the outcomes associated with these comparisons. For example, when the interviewer asked Lucy the question: ‘Looking at pictures of Miley Cyrus (Lucy’s favourite celebrity), how do you think that might make girls feel about the way they look in comparison?’ Lucy replied:

Lucy (II): Well, I would feel a bit jealous because I really want to look like her.

Importantly, differences were observed in the nature and outcomes of these comparisons between girls and boys. Overall, 18 girls suggested that if another girl was to compare her appearance to that of her favourite celebrity, the outcome would be negative, including feelings of sadness, jealously, unhappiness and/or wanting to
change their appearance. For example, two girls from individual interviews also made the following statements in regard to the same question:

Hannah (II): Sometimes jealous if they want to look like that but if they knew that person happy for them that they looked like that.

Nadia (II): Well it might make them want to look more like (the celebrity) and change the way they (the other girl) look.

Similarly, this was more fully illustrated with the following discussion between girls in a focus group:

Nicole (FG): I reckon Sarah would be jealous because she is, no offense to her, not as good looking, and I reckon she would see them (female celebrities) and go ‘aw how come I’m not as good looking as that’.

Sandra (FG): Fat people would go, ‘how come I can’t be that skinny?’

On the other hand, just over half of the boys (19) thought that looking at pictures of their favourite celebrities would result in positive feelings. Boys generally suggested that if another boy was to compare his appearance to that of his favourite celebrity (who were typically sportsmen), the outcome would be feeling positive and/or inspired. For example:

Tom (FG): It makes them feel like it is possible to look like them and be as good as them.

Adam (FG): It would make you feel good because you could be slowly looking like the person, just say it’s the person you want to look like, well you’re starting to look like them.

Boys also tended to focus more on the skill of the celebrity in question and use skill as well as their appearance as their point of comparison. For example one boy stated:

Joel (FG): It makes you feel good because you think you can achieve that and I could be like that person, like you could be number 36 for Collingwood, you could be 16 for Melbourne Victory.
One boy from an individual interview explained why he thought boys his age feel inspired when seeing their favourite famous sportsmen:

Aaron (II): They want to be like them, they want to grow up to be a footballer, that’s what their dreams are, because they are good at it. I’m good at basketball, so I want to grow up to be a basketballer. So I think that will be me in 20 years’ time.

Only three boys reported any negative feelings associated with any of their comparisons. For example, one boy said that looking at lots of pictures of his favourite footballer might lead to feeling:

David (II): Sad…embarrassed…Because they (footballers) might have muscles and be more fitter.

Despite differences in the nature of the perceived outcome associated with these comparisons, children demonstrated that they were very familiar with this type of comparison.

**Discussion**

The current study examined children’s use of social comparisons in relation to their body image. The ways in which children compared themselves to their peers and media celebrities in terms of their appearance and their physical abilities were considered. An important aspect was to examine children’s understanding of the concept of social comparisons and how accurately children are able to comment on their tendency to use social comparisons. The individual interviews demonstrated that the concept was initially poorly understood by several children. The concept of comparing oneself to others is one which is not often discussed at school or among children, therefore this confusion may have reflected unfamiliarity with the terms used. This confusion was generally resolved when the concept was explained in more detail and when examples were given.
Children’s awareness of their tendency to compare themselves was limited. Many children denied comparing themselves then subsequently compared themselves to others without realising. Children made these contradictions most often in regard to appearance-related comparisons. Additionally, some children found the appearance-related questions to be too uncomfortable to answer with some children requesting to skip the question altogether. As contradictions were less likely to occur in regard to sports-related comparisons, children may have been unwilling to discuss or admit to their use of appearance-related comparisons for social desirability reasons.

Despite the contradictions made by some children, participants in the current study clearly demonstrated frequent use of social comparisons in regard to their peers on a range of domains including appearance, abilities, sporting achievements and media preferences. However, within this general observation, some important gender differences were identified. For girls, appearance-related social comparisons were the most common type of comparison made. As the wider topic of discussion was body image and peer and media influences, social comparisons were a likely topic to emerge as they are suggested to be highly relevant to the development of children’s body image (Holt & Ricciardelli, 2002). This finding is consistent with previous research which has demonstrated that preadolescent girls often engage in appearance-related comparisons (Blowers et al., 2003). This may reflect a greater focus on appearance for girls rather than boys, particularly within peer groups. Research has demonstrated that girls are generally more concerned with their appearance than boys are (Cohane & Pope, 2001). Additionally, studies have identified the existence of a ‘peer appearance culture’ among girls, which places a focus and reinforces the importance of appearance within girls’ friendship groups (Jones et al., 2004; Krayer et al., 2008).
Boys demonstrated less frequent use of appearance-related social comparisons and more frequent use of sports/abilities-related social comparisons. For boys, sport and physical abilities were an important aspect of conversations regarding media and peer influences and body image. Previous qualitative research with men and boys has also demonstrated that when discussing body image and body related topics, boys prefer to discuss these topics in reference to the functional components of their bodies (Grogan & Richards, 2002; Krayer et al., 2008). It is well known that sports play an important socialising role for preadolescent boys (Ewing et al., 2002). Participation in sports also has implications for body shape and appearance. Some studies have explored this relationship between boys’ perceived physical abilities and sporting skills and their body image. Ricciardelli et al. (2006) found that among adolescent boys, the aspects of their bodies they liked the most and those which they most wanted to improve on were those which were synonymous with the attributes associated with being successful at sport. These included functional aspects of the body such as overall size, height, speed, strength, fitness and endurance (Ricciardelli, et al., 2006). Similarly, sporting performance has been shown to be a motive for preadolescent boys to want to change their body (Schur, Sanders, & Steiner, 2000). In light of this research, it is unsurprising that sports and body functionality were a greater emphasis in boys’ discussions of body image and also in their use of social comparisons.

An interesting observation was the direction of the comparisons made by children in the current study. While girls’ appearance-related comparisons were generally upward or lateral, boys’ sports/ability comparisons were more often lateral or downward. Previous research indicates that when the motive for comparison is self-enhancement the preferred comparison target is one who is worse off (Buunk &
The current finding may reflect boys’ desire to compete with their peers or promote themselves during the interviews. On the other hand, girls may have refrained from downward appearance-related comparisons for social desirability reasons. For example, it is less socially acceptable for girls to state that they are more attractive than their peers.

The current findings suggest that peers were more prominent and important targets for comparison than were media figures. Children made several spontaneous social comparisons in regard to their peers and far fewer children made spontaneous media comparisons. This is consistent with the theoretical perspective that perceived similarity is a strong motivating force between individuals and their comparison targets (Dijkstra et al., 2008). Practically, more information is available from peers as they are more well-known and familiar. Additionally, peers are an important reference given the need to fit in and be accepted by one’s peers and the peer group (Krayer et al., 2008).

A notable gender difference was observed in regard to media comparisons and the outcomes of these comparisons. In line with previous research, girls thought that looking at pictures of female celebrities might result in negative emotions such as feeling sad or jealous. This finding is consistent with previous studies which have found that under experimental conditions, media comparisons are associated with increased body dissatisfaction among preadolescent girls (Hargreaves & Tiggemann, 2004). On the other hand, just over half of the boys expressed the opinion that a comparison with their favourite celebrity would result in feeling good and inspired to become like that person. According to social comparison theory, with regard to performance, upward comparisons enable individuals to improve their performance, whereas downward comparisons are generally thought to be less useful from the
perspective of self-improvement (Wills, 1981). In regard to preadolescent boys and media comparisons, to date there are very few studies which have examined this area, making it difficult to draw parallels.

Findings for adolescent boys are also inconsistent. For example, Hargreaves and Tiggemann (2004) examined the effect of exposure to media images on adolescent girls’ and boys’ body image (mean age 14.3 years). Participants were shown idealised commercials and body dissatisfaction was measured before and after. It was found that exposure led to an increase in social comparisons for girls and boys however, this was unrelated to body dissatisfaction among boys. Humphries and Paxton found similar results for a sample of adolescent boys. The researchers suggest that it may be that boys believe that they may grow to become more muscular and athletic like the idealised images (Humphries & Paxton, 2004). On the other hand, other studies have found evidence of this relationship. Smolak and Stein (2010) examined young adolescent boys’ (mean age 12.92 years) use of muscle building strategies and their use of social comparisons. The researchers found that social comparisons at time 1 predicted investment in the muscular ideal, which was in turn correlated with muscle building strategies seven months later.

One qualitative study with adolescent boys demonstrated the thought pattern behind boys’ social comparisons with media targets. Hargreaves and Tiggemann (2006) conducted interviews with 28 boys aged 14 to 16 years. The researchers found that boys did not feel threatened by muscular-ideal media images, as they believed that their bodies were still growing and approaching the muscular ideal. For boys, thinking about increasing their muscularity may provoke thoughts of a desired future self as they imagine continued growth towards their muscular ideal (Hargreaves & Tiggemann, 2006). The current finding that preadolescent boys viewed media comparisons as inspiring, demonstrates a similar trend for preadolescent boys. Additionally, this finding may be understood in terms of how the
Boys identify with these targets.

Buunk et al., (1990) argued that the effect of social comparison information depends on how the individual identifies with the comparison target. For instance, when children compare themselves to a superior target and contrast themselves, they may experience negative affect and feel inferior, but when they identify with a better-performing other, they may feel inspired to perform better (Dijkstra et al., 2008). Evidence from the current study indicated that boys in particular identified with their favourite celebrities who were sportsmen and wanted to emulate these men. For example, as explained by one boy from the current study, boys want to grow up to be like their favourite sportsman. Recently Anschutz, Engels and Van Strien (2012) found similar results for a sample of six to eight year old girls. After exposure to television clips, girls with higher levels of thin ideal internalisation showed higher body satisfaction after exposure to the thin ideal characters. The authors suggest that young girls who internalised the thin ideal are inspired by thin ideal characters in children's media.

Limitations and Conclusions of Study 1

Limitations of the qualitative approach need to be noted. Questions which were provided by the researchers may have had a greater bearing on the final themes than the more general and open-ended questions. Given the gendered nature of body ideals, boys may have been reluctant to discuss their appearance and may have opted to discuss the more socially accepted topic of sports, fitness, and exercise. Additionally, participants in the focus groups who were more talkative than other participants may have had more influence over the findings. Given the nature of the focus group approach, it is important to note that children may have been influenced by their peers in the group, especially as children were from the same school and often the same year level and were known to each other. Additionally, the interviews
were conducted by a female. It is unknown how this may have influenced boys’
disclosure in the interviews. However, Grogan and Richards (2002) found that males,
across three different age groups including preadolescents, felt less threatened when
their focus groups were facilitated by a woman. All interviews were also coded by
women. This is also an important consideration as the final themes were interpreted
in line with females’ perspectives of boys’ experiences.

A key limitation of the qualitative design is that the generalizability of the
findings is more limited than what is possible with quantitative studies. As such, the
themes highlighted in Study 1 require further examination using a quantitative
methodology.

Despite these limitations, findings from the current study have identified
several avenues for further research as some trends and interesting observations were
present. Firstly, questions which require children to directly comment on whether or
not they compare themselves to other children on their appearance should be used
with caution, as it is a concept which is difficult for some children at this age to
grasp. The current study showed that girls may be more inclined to compare
themselves with actresses and singers, and boys to sportsmen in the media. Therefore
future studies are needed to further examine this gender difference and how it may
differentially relate to boys’ and girls’ body image development.

Findings from Study 1 clearly demonstrated that preadolescent boys and girls
have complex body ideals which are clearly shaped by their peer culture and gender
ideals. Preadolescent girls are focused on appearance in relation to their body image,
while boys are focused on sports and abilities in relation to their body image. In both
cases, body ideals are reinforced by children’s peers and the specific forms of media
on which they are focused. These differences need to be addressed in the
development of more appropriate measurement tools for boys. Given the more complex nature of boys’ body ideals and that these are inseparable from their sporting ability, measuring the internalisation will need to take these domains into account. Additionally, existing tools which assess media influences need to be revised and take into account boys’ focus on sports-related media. Previous measures were originally developed for girls and consequently do not include the most relevant media targets for preadolescent boys.
PART 3: SURVEY OF PREADOLESCENTS’ BODY IMAGE AND

SOCIOCULTURAL INFLUENCES
Overview of Part 3

Part 3 of this thesis provides a report of the aims, method, results and discussion of Study 2. Building on key findings from Study 1, Study 2 was designed to extend the understanding of preadolescent boys’ and girls’ body ideals and sociocultural factors by examining these in greater depth using a survey design. Chapter 7 details the aims and method of Study 2, and included is a description of the measures used. Chapter 7 also provides a report of the modifications to existing measures which were made based on findings from Study 1.

Chapter 8 presents the descriptive statistics, factor analyses and reliability of scales used in Study 2. Several of the scales were specifically modified for this study and other scales had yet to be examined among preadolescents. All scales were subjected to exploratory factor analyses, separately for boys and girls. Additionally, internal consistency coefficients using Cronbach alpha are presented for each of the final scales and subscales. This chapter also includes the frequencies of children’s responses to scale items.

Chapter 9 examines the extended versions of the Tripartite Influence Model which were developed for preadolescent boys and girls. Different models were proposed for boys and girls based on the findings from Study 1. The boys’ extended Tripartite Model included the variables of Perceived Sports Competence and Masculine Gender Ideals. The girls’ extended Tripartite Model included the additional component of Feminine Gender Ideals.

In Chapter 10 the results from Study 2 are discussed in relation to the major aims of the research. The findings for the extended Tripartite Influence Models for boys and girls are examined and compared to previous research. Additionally, the
factor structures identified for the instruments used in Study 2 are compared with original conceptualisations of the scales studied in previous research. Recommendations for future research based on the findings in Study 2 are also discussed.
CHAPTER 7

Study 2: Aims and Method

This chapter details the aims and method of Study 2. Study 1 provided in-depth accounts of body ideals, gender ideals and messages that children receive about their bodies from their peers and the media. Study 2 was designed to extend the current understanding of preadolescent boys’ and girls’ body ideals and sociocultural factors by examining these in more detail using a survey design. A full description of the measures used is also provided. Modifications to existing measures were made based on findings from Study 1.

Rationale and Aims for Study 2

The overall aim of Study 2 was to gain a better understanding of preadolescent boys’ and girls’ body image in relation to the sociocultural factors which were identified in Study 1. The major sociocultural factors identified in Study 1 were, social comparisons, gender ideals, internalisation, perceived sports competence and peer and media messages. Therefore, these factors were examined in greater detail in Study 2 using a survey design. The first aspect of Study 2 was to adapt and improve measurement scales which assess these factors. Findings from Study 1 highlighted some new themes in relation to children’s experiences of sociocultural factors which are not assessed by pre-existing measures of sociocultural influence. For instance, findings from Study 1 demonstrated that preadolescent girls and boys are focused on different media targets. Boys were focused on sport media and sport celebrities, while girls were focused on singers and actresses. However, these differences are not captured in existing scales of media influence. Findings from Study 1 also suggested that an important body ideal for boys is to be fit, and not fat, however, this is not represented in pre-existing measures of body ideals for boys.
Additionally, Study 1 demonstrated that children may not fully understand the concept of social comparisons. Children’s awareness of their tendency to compare themselves was limited, as several children in Study 1 denied that they ever compared themselves, yet on occasion, these children engaged in spontaneous comparisons without realising that they were doing so. This indicates that it is a difficult concept for some children at this age to grasp. Therefore, pre-existing measures do not fully capture children’s social comparison tendencies and highlight that questions need to be phased in more simplistic and concrete terms.

Utilising the major findings from Study 1, the first aim of Study 2 was to adapt pre-existing measurement scales to be more representative and relevant to preadolescent boys’ and girls’ experiences of sociocultural factors relating to their body image. Specifically, these scales included the boys’ version of the SATAQ (Smolak et al., 2001), the Physical Self-Description Questionnaire (Marsh, Richards, Johnson, Roche, & Tremayne, 1994), the Social Comparison Practices Scale (Holt & Ricciardelli, 2002), and the Sociocultural Influences on Body Image and Body Change Questionnaire for Children (McCabe & Ricciardelli, 2005).

The second aim of Study 2 was to examine the underlying factor structures for both the existing and the adapted measures of body image and sociocultural influences, separately for preadolescent boys and girls. Adapted measures of sociocultural influence were factor analysed to determine whether the factor structure of the modified scale replicates that of the original versions of the scales, and whether the factor structure is different for boys and girls. Additionally, some pre-existing measures have not yet been factor analysed for use with preadolescents, such as the Body Change Inventory (Ricciardelli & McCabe, 2002) and the Male Physical Attributes Investment Scale (Smolak & Stein, 2006). As such, it is unknown how
these scales are best conceptualised for preadolescent children, and whether the factor structures differ between girls and boys. The underlying factors structures observed in preliminary analyses, informed the composition of variables for further analysis within the sociocultural models.

Finally, Study 2 aimed to develop and test sociocultural models of influence to explain children’s body image and body change strategies. The Tripartite Influence Model (Thompson et al., 1999) predicts that internalisation of body ideals and social comparisons mediate the influence of peers and the media on body image (e.g., Papp et al., 2013). Specifically, this model was extended to include two additional constructs which were found to be important in relation to body image for preadolescent girls and boys in Study 1. Additionally, different models were proposed for preadolescent girls and boys based on major gender differences observed in Study 1. Findings from Study 1 demonstrated that the constructs of Gender Ideals and Perceived Sports Competence were important in regard to preadolescent boys’ body image. In Study 1, there was a clear emphasis on the importance of sport and physical abilities, and this was promoted by their peer interactions and the sportmen they admired. This sporting culture shaped boys’ body ideals pertaining to fitness and muscularity. Study 1 also demonstrated that gender ideals were conveyed and reinforced by peers and the media within the sporting culture.

In line with these findings, an extended and modified version of the Tripartite Influence Model was proposed for preadolescent boys which includes the variables of Perceived Sports Competence and Male Gender Ideals as additional mediators between peer and media influences, and Body Esteem and Body Change Strategies. In addition, findings from Study 1 suggest that boys were more strongly influenced
by sports related media and sports celebrities than other kinds of media. Therefore, in the extended Tripartite Model, media influence for boys was specifically sports-related media. Figure 1 presents the extended Tripartite Model which was developed for preadolescent boys.

In the hypothesised models for girls and boys, Body Esteem and Body Change Strategies were conceptualised in terms of previously defined subscales which have been utilised in previous studies (e.g., Mendelson et al., 1996; Ricciardelli et al., 2003). Therefore, three measures of Body Esteem were included, these were Weight Esteem, Appearance Esteem and Muscle Esteem. Previous studies have shown that each of these subscales have adequate internal consistency for children under 10 (Mendelson et al., 1996; Sproal, 2010). Two subscales from the Body Image and Body Change Inventory (Ricciardelli & McCabe, 2002) were also used: Weight Change Strategies and Muscles Change Strategies. These subscales have also been previously found to demonstrate good internal consistency with preadolescents (Ricciardelli et al., 2003).

Figure 3. Hypothesised Extended Tripartite Model for Boys.

An alternative version of the Tripartite Model was proposed for preadolescent girls and this is presented in Figure 2. This extended version of the Tripartite Model
includes the variable Female Gender Ideals as an additional mediator between peer and media influences and Body Esteem and Body Change Strategies. Findings from Study 1 indicated that endorsement of female gender ideals was important in understanding girls’ body image. However, unlike the boys in Study 1, Perceived Sports Competence was not as important for preadolescent girls’ body image; therefore it was not included in the model for girls. Additionally, findings from Study 1 suggest that media influence specifically from actors and singers was the most important type of media for girls. Unlike boys’, girls were not as focused on sport-related media.

Figure 4. Hypothesised Extendend Tripartite Model for Girls

Method

Participants

The participants were 229 preadolescent children (114 boys and 115 girls) recruited from 8 primary schools located in the suburbs of Melbourne, Australia and surrounding regional areas. Participating schools were from a diverse range of demographic areas and represented a broad range of socio-economic backgrounds. Recruited schools included 6 state primary schools and 2 Catholic primary schools.
The participating schools also ranged in size, the largest school had 840 students enrolled and the smallest school had 120 students enrolled. Participants were aged from eight to 10 years old. The mean age for boys was 9.28 years (SD = 0.67) and the mean for girls was 9.23 years (SD = 1.09). Participants were enrolled in grades three and four. Overall, there were 92 children who were 10 years old, 107 who were 9 years old and 30 who were 8 years old.

**Materials**

The survey for Study 2 comprised of (a) new, (b) modified, and (c) pre-existing instruments which were designed and selected to further examine the major findings from Study 1. In line with the aim of Study 2, some pre-existing instruments were adapted to be more suitable for pre-adolescent boys and/or girls. These adaptations were based on qualitative findings from Study 1. Instruments were adapted to be more representative of children’s experiences of the sociocultural factors relevant to their body image. In particular, amendments were made to instruments in order to tap into boys’ experiences which were not acknowledged within pre-existing measures. Where possible, instruments were also adapted to be simplified and more concrete to enhance children’s understanding, and also more succinct to keep the overall length of the questionnaire manageable for children. All measures were chosen or designed on the basis of their suitability for children aged eight to 10 years old (see appendix T).

**Body Esteem.** Body esteem was assessed using the BES developed by Mendelson and White (1993). The BES consists of 20 items and was designed to assess children’s attitudes, feelings and towards their body, weight and their overall appearance (Mendelson & White, 1993). The BES includes items such as, ‘I’m proud of my body’ and ‘I wish I was thinner’. This scale was modified by Sproal (2010) to
include another five items which assess children’s overall satisfaction with their muscles, for example, ‘I’m proud of my muscles’.

The overall BES scale utilised in this study contained a total of 24 items. Each item was answered on a three-point scale with the options of ‘yes’, ‘in-between’ and ‘no’. Each item was coded such that a ‘0’ indicated a low body esteem response and a ‘2’ indicates a high body esteem response. A high total score on the BES indicated greater body esteem. The BES is comprised of three subscales including Appearance Esteem, Weight Esteem and Muscle Esteem. The appearance subscale contains 14 items, the weight subscale contains six items, and the muscle subscale contains four items.

The BES has been previously used with children aged 8 to 10 (Mendelson et al., 1996; Smolak et al., 1997) and acceptable psychometric properties have been established. For example Mendelson et al. (1996) found an internal consistency coefficient of .87 for the appearance subscale and .77 for the weight subscale. The researchers also found the BES to be stable over a two-year period with correlations ranging from .34 to .37. Sproal (2010) also found adequate internal consistency for the muscle subscale among children aged eight to 11 (.82 for girls and .73 for boys).

**Body Change Inventory.** Two subscales from the Body Image and Body Change Inventory (Ricciardelli & McCabe, 2002) were employed: Weight Change Strategies and Muscles Change Strategies. Versions of these subscales were modified by Ricciardelli et al. (2003) to make them more readily understood by children. Each subscale consisted of four items that assessed children’s attitudes and behaviours to lose weight (e.g., How often do you eat less to lose weight?), or increase muscles (How often do you exercise to gain muscle?). For each item, children were required to indicate the frequency of the attitude or behaviour on a 3-point scale that included
responses ‘never’, ‘sometimes’ and ‘often’. Each item was coded such that a ‘0’ indicated that children never engaged in the body change strategy and ‘2’ indicated a high frequency of using the body change strategy. Higher overall scores for the Weight Change subscale indicated greater use of weight change strategies and higher overall scores for the Muscle Change subscale indicated greater use of muscle change strategies.

The Body Change Inventory has been previously used with children and good psychometric properties have been established. Ricciardelli et al. (2003) found that for 507 children aged 8 to 11 years, internal consistency for Weight Change was .85 for girls and .79 for boys. Additionally, internal consistency for Muscle Change was .79 for girls and .83 for boys.

**Perceived Sports Competence Scale.** Sixteen items from the Physical Self-Description Questionnaire (PSDQ: Marsh et al, 1994) were used to assess children’s perceptions of their sporting competence including their sports behaviours and physical abilities. Four items from each of the following four PSDQ subscales were utilised: Endurance (e.g., ‘I think I could run a long way without getting tired’), Sports Competence (e.g., ‘I have good sports skills’), Strength (e.g., ‘I have lots of strength in my body’) and Physical Activity (e.g., ‘I would do well in a test of physical fitness’). These items were chosen based on findings in Study 1 which highlighted specific sporting abilities which children regularly referred to in the interviews, for example, strength, fitness and being a fast runner. Children responded to each of the 16 items on a three-point scale, (0 = No, 1 = In Between and 2 = Yes). A higher overall score indicated greater perceived sports competence.

Previous studies have established that the subscales of the PSDQ are distinct components and each demonstrates high internal consistency among adolescents:
Physical Activity (.90), Sports Competence (.94), Strength (.92), and Endurance (.92) (Marsh & Roche, 1996). Among preadolescents reliability estimates have been found to be lower. For example, for children aged seven to nine years old, Marsh, Hau, Sung and Yu (2007), found alpha coefficients ranging from .61 to .83 for these subscales.

**Internalisation of the Thin Ideal for Girls.** Girls’ internalisation of the thin ideal was assessed using six items from the Internalisation subscale of the Socio-cultural Attitudes Towards Appearance Questionnaire (SATAQ; Heinberg et al., 1995), which was modified by Smolak et al. (2001) for use with adolescents aged 11 to 13. The Internalisation subscale measures endorsement of the thin ideal. Girls responded to each of the six items on a three-point scale, (0 = No, 1 = In Between and 2 = Yes). A higher score indicated greater internalisation of the thin ideal. This measure has been shown to have excellent reliability with preadolescent girls. For example, Blowers et al. (2003) found an internal consistency coefficient of .96 for the Internalisation subscale among girls aged 10 to 13 years. In a sample of children aged six to 11, Murnen et al. (2003) found internal consistency coefficients of .86 for Internalisation for girls.

**Internalisation of the Muscular/Fit Ideal for Boys.** For the purpose of this study, a new six-item measure was constructed to assess Internalisation of the muscular and fit ideal for boys. Items were based on the internalisation items from the SATAQ for adolescent boys (Smolak et al., 2001). The adaptations to items were informed by findings from Study 1. The aim was to develop a measure which was more representative of preadolescent boys’ experiences of body ideals which are characterised by being fit, not fat and muscular. Findings from Study 1 indicated that preadolescent boys’ experience of internalisation of the lean/muscular ideal was most
closely tied to perceptions of physical abilities and fitness with major sources of media influence being sporting celebrities, particularly Australian football players. Therefore, new questions were designed to tap into these sources of influence for boys (i.e., ‘I wish I looked more muscular, like a footballer’ and ‘Photographs of fit men, make me wish I was more fit’). Boys responded to each of the 6 items on a three-point scale, (0 = No, 1 = In Between and 2 = Yes). A higher score indicated greater internalisation of fit, lean and muscular body ideals.

**Masculine Gender Ideals.** Endorsement of masculine gender ideals was assessed using the Male Physical Attributes Investment Scale (Smolak & Stein, 2006). The scale includes eight-items and was created for use with boys aged 11 to 15 years. The wording in the scale was modified for the current study to be more appropriate for younger boys. For example the question ‘Guys should be able to throw a ball farther than most girls’ was changed to ‘Boys should be able to throw a ball farther than most girls’. One item was removed as it was thought to be of less relevance to preadolescent boys (‘It is important for boys to be able to physically defend their girlfriend’). Boys responded to each of the seven items on a three-point scale, (0 = No, 1 = In Between and 2 = Yes). Items were summed to create a total score, with a higher score indicating greater endorsement of masculine gender ideals. Smolak and Stein (2006) found an internal consistency coefficient of .85, for a sample of 267 boys aged 11 to 15. This scale has not been previously used with preadolescent boys.

**Feminine Gender Ideals.** A female version of the Gender Ideals Scale was created for the purpose of the current study. Items were designed based on findings in Study 1 which demonstrated attributes and gender characteristics which girls associated with being a girl, such as being pretty and neat. Seven items were created
to assess preadolescent girls’ endorsement of female gender ideals. Girls were asked to rate their agreement to statements concerning the importance of physical attributes that are associated with female gender ideals (e.g., ‘It is more important for girls to always be neat and tidy, than boys’, ‘It would be embarrassing for a girl if she was bigger than most boys her age’, ‘To be popular, girls need to be pretty’). Questions were developed based on the findings from Study 1. Girls responded to each of the seven items on a three-point scale, (0 = No, 1 = In Between and 2 = Yes). A higher score indicated greater investment in female gender ideals.

**Social Comparisons.** Children’s frequency of social comparisons was assessed using nine items which were adapted from the Social Comparison Practices Scale (Holt & Ricciardelli, 2002). Adaptations were made based on findings from Study 1. Findings from Study 1 indicated that children occasionally misunderstood the concept of engaging in social comparisons, therefore, changes were made to the wording and phrasing of the questions to make them more easily understood by children aged eight to 10. For example, the question ‘How often do you compare your weight to other children your age?’ was modified to be ‘Do you think about how much you weigh in comparison to other children your age?’

An additional modification was made in order to assess the frequency with which children compare themselves in regard to three specific sociocultural targets: peers, sports media, and actors and singers in the media. Findings from Study 1 demonstrated that peers were important sources of comparison for girls and boys. However, sporting celebrities were a more important source of media-targeted social comparison for boys, whereas for girls, actors and singers were an important source of media-targeted social comparison. Therefore, three subscales were devised to assess each of these targets of social comparison.
Within each of these three subscales, three domains of social comparison were assessed: weight, muscle and fitness. For example, the Peer Social Comparison subscale included the following questions, ‘Do you think about how fit you are in comparison to other children your age? Do you think about how muscular you are in comparison to other children your age? Do you think about how much you weigh in comparison to other children your age?’ Children responded on a three-point Likert scale which included the options ‘never’, ‘sometimes’ and ‘often’. Higher scores on the social comparison scales indicated greater frequency of social comparisons. The Social Comparison Practices Scale (Holt & Ricciardelli, 2002) has been shown to have good reliability among boys (alpha = .86) and girls (alpha = .83) aged eight to 10 years (Holt & Ricciardelli, 2002).

**Peer Influences.** A six-item measure assessing peer pressure and modelling was constructed for the purpose of this study. Items were based on items from the Sociocultural Influences on Body Image and Body Change Questionnaire (McCabe & Ricciardelli, 2001) which has been modified for use with children aged eight to 12 years (McCabe & Ricciardelli, 2005). The Peer Influence Scale consisted of two subscales. The Peer Pressure subscale included three items which were designed to assess children’s experience of pressure from their peers in regard to their weight, muscle and fitness (e.g., Do children your age give you the idea you need to lose weight? Do children your age give you the idea you need to gain muscle? Do children your age give you the idea you need to become more fit?). The Peer Modelling subscale also consisted of three items which were designed to assess children’s perception of modelling from their peers in regard to losing weight, gaining muscle and improving fitness (e.g., Do you think children your age ever try to lose weight?, Do you think children your age ever try to gain muscle?, Do you think children your age ever try to become more fit?).
Children responded on a three-point Likert scale which included the options ‘no’, ‘in between’ and ‘yes’. Higher scores on the Peer Pressure subscale indicated greater pressure from peers in regard to changing their bodies. Higher scores on the Peer Modelling subscale indicated that children were more likely to observe their peers engaging in body change behaviours. McCabe and Ricciardelli (2005) found Cronbach's alpha for Perceived Pressure to Lose Weight were .84 for preadolescent girls and .80 for preadolescent boys.

**Media Influences.** Two scales were developed to assess children’s experiences of pressure and modelling from media celebrities, specifically these media celebrities were actors/singers and sports media. Findings from Study 1 demonstrated that sports media and sports celebrities were an important source of media messages for boys, whereas for girls, actors and singers were an important source of media messages. Therefore, separate scales were devised to assess each of these media targets.

For each of the media scales, there were two subscales with items mirroring the items of the Peer Influence Scale described above (e.g., Do famous actors and singers give you the idea you need to lose weight? Do you think famous actors and singers ever try to lose weight? Do sportsmen/women give you the idea you need to lose weight? Do you think sportsmen/women ever try to lose weight?).

Children responded to the Actor/Singer Media Influence scale and the Sports Media Scales on a three-point Likert scale (no, in between, yes). Higher scores on the Media Pressure subscales indicated a greater perception of media pressure (from either actors/singer and/or sports celebrities) in regard to weight, muscle and fitness. Higher scores on the Media Modelling subscales indicated a greater perception of
media celebrities (either actors/singer and/or sports celebrities) use of body change strategies in regard to weight, muscle and fitness.

The questions differ to those of the Sociocultural Influences on Body Image and Body Change Questionnaire (McCabe & Ricciardelli, 2001) and are therefore not directly comparable. However, McCabe and Ricciardelli (2005) found Cronbach's alpha for Perceived Pressure to Lose Weight for each of the sociocultural influences was .84 for preadolescent girls and .80 for preadolescent boys.

**Procedure**

Approval was obtained from the Deakin University Ethics Committee, the Victorian Education Department and the Catholic Education Department (see appendices K, L and M). Invitations to participate in the study were sent via email to primary schools in Melbourne, Australia and surrounding areas (see appendix N). Email invitations were then followed up by telephone calls to primary school principals whereby any questions regarding the study could be answered. Principals who were interested in participating in the study were sent plain language statements and organisational consent forms to read and sign (see appendix P). Schools were given the option to accept or decline from having children’s BMI measurements to be taken. Six schools out of the eight schools who agreed to participate, requested that children’s BMI measurements were not taken. This meant that there would have been too few participants with BMI data to be analysed, and therefore BMI data were not collected from any of the participating schools. All participating schools were given plain language brochures to be sent home to parents and guardians of all grade three and four children (see appendix Q).

The rate of parental consent for this study was 25%. Children who had returned their parental consent forms to the school were invited to participate in the
study. Children were told that they had been invited to take part in a project which aimed to help children feel better about the way they look and the things they can do. Children were informed that they would be required to answer multiple choice questions about their looks, sports, exercise, their friends and famous people. Children were told, in age appropriate language, that they did not have to participate if they did not want to, that they could stop at any time, and that their answers would be anonymous.

Assessment took place in the classroom groups of between five to 30 children. The questionnaire was delivered in two 20 minute sessions. In the first 20 minutes, children answered half of the questions, and then had a 10 minute break to stretch and play a class game at their desks. After this they had another 20 minutes to complete the remaining questions. To ensure children understood the questions, the questionnaire was read out aloud by the researchers. The researchers included the current student, and two additional graduate students who had previous experience working with children. Children were encouraged to ask for help if they did not understand any of the questions. There were some variations between the girls’ and boys’ versions of the survey, therefore one researcher read the questions aloud to the boys, and another read aloud to the girls. Children were seated in girl and boy groups to facilitate this. An additional research assistant was in the classroom to assist with any questions from the children. Children’s age and class were recorded on the front of their questionnaire booklet. Once the children had finished their questionnaire, all children were debriefed. The children were once again told why their participation was required, and what to do if any of the questions had made them feel upset. Details were given to teachers for assistance if any child reported feeling upset as a result of the study. However there were no reported instances of any child feeling upset as a result of this study.
CHAPTER 8

Study 2: Results

This chapter provides a report of the descriptive statistics, factor analyses and internal consistency of scales used in Study 2. This includes the frequencies of children's responses to scale items and the examination of the factor structure of each of the scales. Several of the scales were specifically modified for this study and other scales had yet to be examined among preadolescents. All scales were subjected to exploratory factor analyses separately for boys and girls. Additionally, Cronbach alpha was examined for each of the scales.

Missing Values

Prior to conducting exploratory factor analyses of instruments, the data were subjected to missing values analysis. Missing values analysis in SPSS 21 revealed that no variables had more than 5% missing data. Additionally, Little’s MCAR test was non-significant, \( p > .05 \) therefore it was assumed data were missing in a random pattern (Tabachnick & Fidell, 2007), and the missing values could be substituted by using Expectation Maximisation. Expectation Maximisation assumes the data reflects a normal distribution, and as such, inserts values for those that were missing based upon an assumed normal distribution (Tabachnick & Fidell, 2007). Additional preliminary data analysis including examination of outliers, normality, linearity, multicollinearity and singularity are addressed in the next chapter (Chapter 9).
Descriptive Statistics and Factor Analyses

In order to examine the construct validity of each of the scales, exploratory factor analyses were conducted. All scales were subjected to an exploratory factor analysis using SPSS version 21. Separate factor analyses were conducted for boys and girls in order to assess any gender differences in the underlying structure of the scales. To evaluate the underlying factor structures of the instruments, common factor analyses with Maximum likelihood factoring were used. In each case, oblique rotations were used to determine if the instrument tapped into more than one construct. An oblique rotation was selected as this is a standard method of rotation when it is believed that the factors are related to each other in any way (Tabachnick, & Fidell, 2007). In each case, prior to performing the factor analysis, the suitability of the data for factor analysis was assessed using Bartlett’s test of sphericity and Kaiser–Meyer–Oklin measure of sampling adequacy (KMO). These statistics are reported for each of the analyses. Scree-tests and Kaiser’s criterion were used in each analysis to determine the number of factors to extract.

Descriptive Statistics for the Body Esteem Scale

Table 8.1 shows the percentages of boys and girls who answered ‘yes’, ‘in between’, or ‘no’ to each of the items on the BES. In general, children generally answered positively, with responses falling between ‘in between’ and ‘yes’ on positively worded items and ‘no’ and ‘in between’ on negatively worded items. Among boys and girls, the highest percentage of children answered ‘yes’ to the following items: ‘My parents like my looks’ (boys = 81%, girls = 81%) and ‘I am pretty happy about the way I look’ (boys = 74%, girls = 67%). The majority of children also responded positively to the item, ‘I like what I look like in the mirror’ (boys = 67%, girls = 53%).
On the other hand, in response to the item ‘There are things I would change about my looks if I could’, 42% of boys responded ‘yes’ and almost half of girls responded ‘yes’ (49%). For the item ‘Most people have a nicer body than I do’, 80% of boys and 84% of girls responded ‘yes’ or ‘in between’. Additionally, half of girls (50%) indicated ‘yes’ or ‘in between’ to the item ‘I worry about the way I look’, whereas only 28% of boys responded ‘yes’ or ‘in between’ on the same item. For the item ‘I really like my muscles’, 56% of boys agreed with this statement answering ‘yes’, whereas half of girls (50%) answered ‘yes’ to the same item. Similarly, 41% of boys responded with ‘yes’ to the question ‘I wish I had more muscle’, whereas only 23% of girls did the same.

**Factor Analysis of the Body Esteem Scale**

The boys’ data on the BES were examined and the significance of Bartlett’s test of sphericity ($\chi^2 [276] = 1285.03, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .84) revealed that the BES was an appropriate candidate for factor analysis with adequate common variance (Tabachnick & Fidell, 2007). A one dimensional factor solution was found to be the best representation of the data for boys, with the scree plot demonstrating a noticeable change in the slopes after the first factor.

The single factor for the boys (eigenvalue = 7.79) consisted of all 24 items and accounted for 29.63% of the variance, and its factor loadings ranged from .38 to .70. Items which loaded onto this factor were summed to form an overall Body Esteem score which had an internal consistency of .90 for boys. The one dimensional factor solution is presented in Table 8.2.
Table 8.1 Frequencies of Girls’ and Boys’ Responses to Body Esteem Items

<table>
<thead>
<tr>
<th>Body Esteem Scale</th>
<th>Subscale/Item</th>
<th>No %</th>
<th>In Between %</th>
<th>Yes %</th>
<th>No %</th>
<th>In Between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>1. I Like what I look like in photos</td>
<td>9.00</td>
<td>38.00</td>
<td>53.00</td>
<td>10.00</td>
<td>45.00</td>
<td>44.00</td>
</tr>
<tr>
<td></td>
<td>2. Kids my own age like my looks</td>
<td>13.30</td>
<td>61.10</td>
<td>25.70</td>
<td>11.30</td>
<td>58.30</td>
<td>30.40</td>
</tr>
<tr>
<td></td>
<td>3. I am pretty happy about the way I look</td>
<td>3.50</td>
<td>22.10</td>
<td>74.40</td>
<td>2.60</td>
<td>30.40</td>
<td>67.00</td>
</tr>
<tr>
<td></td>
<td>4. I like what I see in the mirror</td>
<td>4.40</td>
<td>28.30</td>
<td>67.30</td>
<td>10.40</td>
<td>56.60</td>
<td>53.10</td>
</tr>
<tr>
<td></td>
<td>5. There are things I would change about my looks if I could</td>
<td>27.40</td>
<td>30.10</td>
<td>42.50</td>
<td>22.60</td>
<td>27.80</td>
<td>49.60</td>
</tr>
<tr>
<td></td>
<td>6. I wish I looked better</td>
<td>43.60</td>
<td>25.70</td>
<td>31.00</td>
<td>31.30</td>
<td>34.80</td>
<td>33.90</td>
</tr>
<tr>
<td></td>
<td>7. I often feel ashamed of how I look</td>
<td>63.80</td>
<td>23.00</td>
<td>13.30</td>
<td>58.30</td>
<td>27.00</td>
<td>13.90</td>
</tr>
<tr>
<td></td>
<td>8. Other people make fun of the way I look</td>
<td>70.80</td>
<td>17.70</td>
<td>11.50</td>
<td>59.30</td>
<td>28.70</td>
<td>12.20</td>
</tr>
<tr>
<td></td>
<td>9. I'm looking as nice as I'd like to be</td>
<td>7.10</td>
<td>33.60</td>
<td>59.30</td>
<td>11.30</td>
<td>36.50</td>
<td>52.30</td>
</tr>
<tr>
<td></td>
<td>10. I often wish I looked like someone else</td>
<td>65.20</td>
<td>17.70</td>
<td>16.80</td>
<td>44.30</td>
<td>29.60</td>
<td>26.10</td>
</tr>
<tr>
<td></td>
<td>11. My looks upset me</td>
<td>72.70</td>
<td>15.00</td>
<td>5.30</td>
<td>65.20</td>
<td>27.80</td>
<td>7.00</td>
</tr>
<tr>
<td></td>
<td>12. I'm as nice looking as most people</td>
<td>13.30</td>
<td>42.50</td>
<td>44.20</td>
<td>13.90</td>
<td>45.20</td>
<td>40.90</td>
</tr>
<tr>
<td></td>
<td>13. My parents like my looks</td>
<td>2.70</td>
<td>15.90</td>
<td>81.40</td>
<td>6.10</td>
<td>12.20</td>
<td>81.80</td>
</tr>
<tr>
<td></td>
<td>14. I worry about the way I look</td>
<td>71.70</td>
<td>17.70</td>
<td>10.60</td>
<td>49.60</td>
<td>28.70</td>
<td>21.70</td>
</tr>
<tr>
<td>Weight</td>
<td>15. Most people have a nicer body than I do</td>
<td>19.50</td>
<td>57.60</td>
<td>23.00</td>
<td>15.70</td>
<td>57.40</td>
<td>23.00</td>
</tr>
<tr>
<td></td>
<td>16. My weight makes me happy</td>
<td>11.50</td>
<td>20.40</td>
<td>68.20</td>
<td>11.30</td>
<td>33.10</td>
<td>55.70</td>
</tr>
<tr>
<td></td>
<td>17. I wish I was thinner</td>
<td>54.00</td>
<td>27.40</td>
<td>18.60</td>
<td>50.40</td>
<td>24.30</td>
<td>25.20</td>
</tr>
<tr>
<td></td>
<td>18. I am proud of my body</td>
<td>4.40</td>
<td>24.80</td>
<td>70.80</td>
<td>6.10</td>
<td>36.60</td>
<td>57.40</td>
</tr>
<tr>
<td></td>
<td>19. I really like what I weigh</td>
<td>8.90</td>
<td>35.40</td>
<td>55.80</td>
<td>19.10</td>
<td>33.00</td>
<td>47.80</td>
</tr>
<tr>
<td></td>
<td>20. I think I have a good body</td>
<td>6.20</td>
<td>31.00</td>
<td>62.80</td>
<td>7.00</td>
<td>34.80</td>
<td>58.30</td>
</tr>
<tr>
<td>Muscle</td>
<td>21. I really like my muscle</td>
<td>14.20</td>
<td>29.20</td>
<td>56.70</td>
<td>19.10</td>
<td>40.00</td>
<td>40.90</td>
</tr>
<tr>
<td></td>
<td>22. I'm proud of my muscle</td>
<td>14.20</td>
<td>27.50</td>
<td>58.40</td>
<td>13.90</td>
<td>36.60</td>
<td>48.70</td>
</tr>
<tr>
<td></td>
<td>23. I think I have good muscle</td>
<td>15.00</td>
<td>25.70</td>
<td>59.30</td>
<td>20.00</td>
<td>28.70</td>
<td>51.30</td>
</tr>
<tr>
<td></td>
<td>24. I wish I had more muscle</td>
<td>31.00</td>
<td>27.40</td>
<td>41.60</td>
<td>47.00</td>
<td>29.60</td>
<td>23.50</td>
</tr>
</tbody>
</table>
The girls’ data on the BES were examined and the significance of Bartlett’s test of sphericity ($\chi^2 [276] = 1395.17, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .85) revealed that the BES was a good candidate for factor analysis (Tabachnick & Fidell, 2007). As found for the boys, a one dimensional factor solution was the best representation of the data for girls, with the scree plot demonstrating a distinct change in the slopes after the first factor. The factor for the girls (eigenvalue = 8.24) consisted of all 24 items and accounted for 34.33% of the variance, and its factor loadings ranged from .31 to .80. Items which loaded onto this factor were summed to form an overall Body Esteem score which had an internal consistency of .92 for girls.

**Descriptive Statistics for the Body Change Inventory**

Table 8.3 shows the percentages of boys and girls who answered ‘yes’, ‘in between’, or ‘no’ to each of the items on the Body Change Inventory. Overall, 35% of boys indicated that they sometimes changed their eating in order to lose weight, and 12% often changed their eating to lose weight. For girls, 42% indicated that they sometimes changed their eating to lose weight and 13% often changed their eating to lose weight. For girls and boys, exercise was a more popular method of weight loss than changing food intake, 42% of boys indicated that they sometimes exercised to lose weight, and 31% indicated they often exercised to lose weight. Similarly, over half of the girls (52%) sometimes exercised to lose weight and 36% often exercised to lose weight.

In regard to muscle building behaviours, 42% of boys indicated that they sometimes changed their eating to gain more muscle, and 27% indicated they often changed their eating to gain muscle.
Table 8.2 Factor Loadings and Eigenvalues for the BES for Girls and Boys

<table>
<thead>
<tr>
<th>Item</th>
<th>Body Esteem Boys</th>
<th>Body Esteem Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I like what I look like in photos</td>
<td>0.38</td>
<td>0.50</td>
</tr>
<tr>
<td>2. Kids my own age like my looks</td>
<td>0.42</td>
<td>0.35</td>
</tr>
<tr>
<td>3. I am pretty happy about the way I look</td>
<td>0.68</td>
<td>0.59</td>
</tr>
<tr>
<td>4. I like what I see in the mirror</td>
<td>0.55</td>
<td>0.57</td>
</tr>
<tr>
<td>5. There are things I would change about my looks if I could</td>
<td>0.52</td>
<td>0.53</td>
</tr>
<tr>
<td>6. I wish I looked better</td>
<td>0.46</td>
<td>0.68</td>
</tr>
<tr>
<td>7. I often feel ashamed of how I look</td>
<td>0.62</td>
<td>0.80</td>
</tr>
<tr>
<td>8. Other people make fun of the way I look</td>
<td>0.38</td>
<td>0.31</td>
</tr>
<tr>
<td>9. I’m looking as nice as I’d like to be</td>
<td>0.60</td>
<td>0.56</td>
</tr>
<tr>
<td>10. I often wish I looked like someone else</td>
<td>0.47</td>
<td>0.54</td>
</tr>
<tr>
<td>11. My looks upset me</td>
<td>0.51</td>
<td>0.70</td>
</tr>
<tr>
<td>12. I’m as nice looking as most people</td>
<td>0.57</td>
<td>0.60</td>
</tr>
<tr>
<td>13. My parents like my looks</td>
<td>0.45</td>
<td>0.43</td>
</tr>
<tr>
<td>14. I worry about the way I look</td>
<td>0.60</td>
<td>0.76</td>
</tr>
<tr>
<td>15. Most people have a nicer body than I do</td>
<td>0.50</td>
<td>0.55</td>
</tr>
<tr>
<td>16. My weight makes me happy</td>
<td>0.68</td>
<td>0.56</td>
</tr>
<tr>
<td>17. I wish I was thinner</td>
<td>0.50</td>
<td>0.52</td>
</tr>
<tr>
<td>18. I am proud of my body</td>
<td>0.70</td>
<td>0.80</td>
</tr>
<tr>
<td>19. I really like what I weigh</td>
<td>0.69</td>
<td>0.59</td>
</tr>
<tr>
<td>20. I think I have a good body</td>
<td>0.70</td>
<td>0.79</td>
</tr>
<tr>
<td>21. I really like my muscle</td>
<td>0.45</td>
<td>0.50</td>
</tr>
<tr>
<td>22. I’m proud of my muscle</td>
<td>0.44</td>
<td>0.57</td>
</tr>
<tr>
<td>23. I think I have good muscle</td>
<td>0.56</td>
<td>0.55</td>
</tr>
<tr>
<td>24. I wish I had more muscles</td>
<td>0.38</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Eigenvalues         7.79           8.24
Percentage of total variance   29.63       34.33
Number of items           24            24
Cronbach alpha              .90           .92

Among girls, 36% indicated they sometimes changed their eating to lose muscle, and 11% indicated they often changed their eating to lose weight. Forty-one percent of boys reported that they sometimes exercised to gain muscle, and 34% reported that they often exercised to gain muscle. For the girls, 36% indicated they sometimes exercised to gain muscle and 23% indicated they often exercised to increase muscle.
Table 8.3 *Frequencies of Girls’ and Boys’ Response to Body Change Items*

<table>
<thead>
<tr>
<th>Body Change Subscales/Items</th>
<th>Boys %</th>
<th>Girls %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Sometimes</td>
</tr>
<tr>
<td><strong>Weight Change</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you think about changing your eating to lose weight?</td>
<td>44.70</td>
<td>40.40</td>
</tr>
<tr>
<td>How often do you change your eating to lose weight?</td>
<td>52.60</td>
<td>34.20</td>
</tr>
<tr>
<td>How often do you think about exercising to lose weight?</td>
<td>28.10</td>
<td>46.50</td>
</tr>
<tr>
<td>How often do you exercise to lose weight?</td>
<td>25.40</td>
<td>42.10</td>
</tr>
<tr>
<td><strong>Muscle Change</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How often do you think about changing your eating to gain muscle?</td>
<td>27.20</td>
<td>42.10</td>
</tr>
<tr>
<td>How often do you change your eating to gain muscle?</td>
<td>31.30</td>
<td>40.40</td>
</tr>
<tr>
<td>How often do you think about exercising to gain muscle?</td>
<td>22.80</td>
<td>40.40</td>
</tr>
<tr>
<td>How often do you exercise to gain muscle?</td>
<td>21.20</td>
<td>43.00</td>
</tr>
</tbody>
</table>
Factor Analysis of the Body Change Inventory

For the boys’ data on the Body Change Inventory, the significance of Bartlett’s test of sphericity ($\chi^2 [28] = 329.37, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .82) revealed that the Body Change Inventory were appropriate for factor analysis (Tabachnick & Fidell, 2007). A one dimensional factor solution was found to be the best representation of the data. The single factor for the boys (eigenvalue = 3.82) explained 47.72% of the variance and consisted of all 8 items and its factor loadings were .48 and .82. Additionally, inspection of the scree plot demonstrated a noticeable change in the slope after the first factor, thus supporting the use of the Body Change Inventory as a one dimensional construct for boys. Items which loaded onto this factor were summed to form a Body Change score which had an internal consistency of .84 for boys.

For the girls’ data on the Body Change Inventory, the significance of Bartlett’s test of sphericity ($\chi^2 [28] = 305.57, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .73) revealed that the Body Change Inventory was an appropriate candidate for factor analysis (Tabachnick & Fidell, 2007). A two-factor solution was found to be the best representation of the data for girls, with eigenvalues of more than 1, explaining 33.91% and 14.99% of the variance, respectively. Inspection of the scree plot also demonstrated a noticeable change in the slopes after the second factor. The first factor for the girls (eigenvalue = 3.22) consisted of 4 items and its factor loadings ranged between .59 and .79. Items which loaded onto this factor were consistent with items relating to muscle change behaviours and they were summed to form a Muscle Change score for girls. This factor had an internal consistency of .80 for girls. The second factor (eigenvalue =
1.66) consisted of 4 items and its factor loadings ranged from .40 to .80. Items which loaded onto this factor were consistent with items relating to weight loss behaviours. Items which loaded onto this factor were summed to form an overall Weight Change score which had an internal consistency of .75 for girls.

The factor structure of the Body Change Inventory has not been previously examined among preadolescent children. The subscales of Weight Change and Muscle Change have been found to be distinct and reliable factors among adolescents (Ricciardelli & McCabe, 2002). For preadolescent girls in the current study, the two-factor structure of the Body Change Inventory was found to be consistent with that which was found by the authors for adolescents. In contrast, a one dimensional factor structure was found to be the best representation for preadolescent boys’ data in the current study. Factor loadings and communalities for Body Change Strategies for girls and boys are presented in Table 8.4.

**Descriptive Statistics for the Perceived Sports Competence Scale (PSCS)**

Table 8.5 shows the percentage of boys and girls who answered ‘yes’, ‘in between’, or ‘no’ to each of the Perceived Sports Competence items. In general, children generally answered positively, with responses falling between ‘in between’ and ‘yes’ on positively worded items and ‘no’ and in between’ on negatively worded items. Negatively worded items were re-coded to be consistent with positive items.

The majority of children indicated that they agreed with the statement ‘I do lots of sports, exercise and physical activities’ with 62% of boys responding with ‘yes’ and 47% of girls answering ‘yes’.
Table 8.4 *Factor Loadings and Eigenvalues for Body Change Strategies for Girls and Boys*

<table>
<thead>
<tr>
<th>Body Change Strategies</th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Body Change</td>
<td>Muscle Change</td>
<td>Weight Change</td>
<td></td>
</tr>
<tr>
<td>How often do you think about changing your eating to lose weight?</td>
<td>0.57</td>
<td>-0.08</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>How often do you change your eating to lose weight?</td>
<td>0.48</td>
<td>0.15</td>
<td>0.57</td>
<td></td>
</tr>
<tr>
<td>How often do you think about exercising to lose weight?</td>
<td>0.67</td>
<td>-0.09</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td>How often do you exercise to lose weight?</td>
<td>0.76</td>
<td>0.09</td>
<td>0.46</td>
<td></td>
</tr>
<tr>
<td>How often do you think about changing your eating to gain muscle?</td>
<td>0.75</td>
<td>0.79</td>
<td>-0.07</td>
<td></td>
</tr>
<tr>
<td>How often do you change your eating to gain muscle?</td>
<td>0.64</td>
<td>0.68</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>How often do you think about exercising to gain muscle?</td>
<td>0.82</td>
<td>0.76</td>
<td>-0.08</td>
<td></td>
</tr>
<tr>
<td>How often do you exercise to gain muscle?</td>
<td>0.78</td>
<td>0.59</td>
<td>0.16</td>
<td></td>
</tr>
</tbody>
</table>

| Eigenvalues | 3.82 | 3.22 | 1.66 |
| Percentage of total variance | 47.72 | 33.91 | 14.99 |
| Number of items | 8 | 4 | 4 |
| Cronbach alpha | .84 | .80 | .75 |
Similarly, the vast majority of children answered ‘yes’ or ‘in between’ to the statement ‘I would do well in a test of physical fitness’ (44% and 48% of boys respectively, and 42% and 49% of girls respectively). Additionally, over half of the boys (64%) and girls (53%) answered ‘yes’ to the statement ‘I have good sports skills’. On the other hand, only 27% of boys and 22% of girls answered ‘yes’ to the statement ‘I am better at sports than most of my friends’.

In regard to the muscularity items, over half of the boys (70%) and girls (67%) disagreed with the statement ‘I am weak and have no muscles’. In response to the statement ‘I am physically a strong person’, half of the boys (50%) answered ‘yes’ and 35% of boys answered ‘in between’, whereas, less than an third (32%) of the girls responded with ‘yes’ and 56% of girls answered ‘in between’ to the same statement.

Some further differences between girls’ and boys’ responses were observed on the endurance items. Among boys, 59% answered ‘yes’ to the statement, ‘I can run a long way without stopping’, while only 44% of girls did the same. Similarly, 53% of boys responded ‘yes’ to the statement ‘I can play sport or do exercise for a long period without getting tired’, while only 34% of girls did the same. The item ‘I can run a long way without stopping’, elicited a higher proportion of ‘no’ responses for boys (26%) and girls (32%) than most other positively worded items on the PSCS.
Table 8.5 *Frequencies of Girls’ and Boys’ Responses on the Perceived Sports Competence Scale*

<table>
<thead>
<tr>
<th>Perceived Sports Competence Scale</th>
<th>Subscale/Item</th>
<th>No %</th>
<th>In between %</th>
<th>Yes %</th>
<th>No %</th>
<th>In between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Activity</strong></td>
<td>1. I do lots of sports, exercise and physical activities</td>
<td>8.20</td>
<td>29.70</td>
<td>62.10</td>
<td>9.30</td>
<td>43.40</td>
<td>47.30</td>
</tr>
<tr>
<td></td>
<td>2. I exercise or play hard enough to breathe hard (huff and puff) many times a week</td>
<td>7.10</td>
<td>48.70</td>
<td>44.30</td>
<td>9.60</td>
<td>50.40</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>3. I would do well in a test of physical fitness</td>
<td>5.30</td>
<td>49.60</td>
<td>45.10</td>
<td>7.80</td>
<td>49.60</td>
<td>42.60</td>
</tr>
<tr>
<td></td>
<td>4. I do sports, exercise, dance or physical activities almost everyday</td>
<td>8.80</td>
<td>39.80</td>
<td>51.30</td>
<td>13.90</td>
<td>38.30</td>
<td>47.80</td>
</tr>
<tr>
<td><strong>Sports Competence</strong></td>
<td>5. I have good sports skills</td>
<td>4.40</td>
<td>31.00</td>
<td>64.60</td>
<td>12.20</td>
<td>34.80</td>
<td>53.00</td>
</tr>
<tr>
<td></td>
<td>6. Other people think I’m good at sports</td>
<td>9.70</td>
<td>45.10</td>
<td>45.10</td>
<td>13.90</td>
<td>44.40</td>
<td>41.70</td>
</tr>
<tr>
<td></td>
<td>7. I am better at sports than most of my friends</td>
<td>28.30</td>
<td>44.30</td>
<td>27.40</td>
<td>25.20</td>
<td>52.20</td>
<td>22.60</td>
</tr>
<tr>
<td></td>
<td>8. Most sports are easy for me</td>
<td>9.70</td>
<td>31.00</td>
<td>59.30</td>
<td>8.70</td>
<td>40.90</td>
<td>50.40</td>
</tr>
<tr>
<td><strong>Strength</strong></td>
<td>9. I am weak and have no muscles</td>
<td>70.80</td>
<td>23.00</td>
<td>6.20</td>
<td>67.00</td>
<td>24.30</td>
<td>8.70</td>
</tr>
<tr>
<td></td>
<td>10. I would do well in a test of strength</td>
<td>14.20</td>
<td>46.90</td>
<td>39.00</td>
<td>17.40</td>
<td>53.00</td>
<td>29.60</td>
</tr>
<tr>
<td></td>
<td>11. I am physically a strong person</td>
<td>14.20</td>
<td>35.40</td>
<td>50.40</td>
<td>11.30</td>
<td>56.60</td>
<td>32.20</td>
</tr>
<tr>
<td></td>
<td>12. I have lots of strength in my body</td>
<td>8.80</td>
<td>33.60</td>
<td>57.50</td>
<td>6.10</td>
<td>40.90</td>
<td>53.10</td>
</tr>
<tr>
<td><strong>Endurance</strong></td>
<td>13. I can run a long way without stopping</td>
<td>11.50</td>
<td>29.20</td>
<td>59.30</td>
<td>20.00</td>
<td>35.70</td>
<td>44.40</td>
</tr>
<tr>
<td></td>
<td>14. I can run a long way without getting tired</td>
<td>26.60</td>
<td>36.30</td>
<td>37.20</td>
<td>32.20</td>
<td>40.00</td>
<td>27.90</td>
</tr>
<tr>
<td></td>
<td>15. I can play sport or do exercise for a long period without getting tired</td>
<td>11.50</td>
<td>35.30</td>
<td>53.00</td>
<td>14.80</td>
<td>50.40</td>
<td>34.80</td>
</tr>
<tr>
<td></td>
<td>16. I do exercise or activities that make me huff and puff for at least 30 minutes for 3 or 4 times a week</td>
<td>16.80</td>
<td>25.70</td>
<td>57.50</td>
<td>22.60</td>
<td>42.60</td>
<td>34.80</td>
</tr>
</tbody>
</table>
Factor Analysis of the Perceived Sports Competence Scale

The boys’ data on the PSCS were examined and the significance of Bartlett’s test of sphericity ($\chi^2[120] = 624.10, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .83) revealed that the PSCS was an appropriate candidate for factor analysis (Tabachnick & Fidell, 2007). For boys, a one dimensional factor solution was found to be the best representation of the data. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The first factor for the boys (eigenvalue = 5.62) explained 31.64% of the variance and consisted of all 16 items with its factor loadings ranging from .33 and .72. Items which loaded onto this factor were summed to form a Perceived Sports Competence score which had an internal consistency of .87 for boys.

Girls’ data on PSCS were also found to be appropriate for factor analysis. Bartlett’s test of sphericity was found to be significant ($\chi^2[120] = 630.94, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy was also found to be acceptable (KMO = .84). For the girls, a one dimensional factor solution was also found to be the best representation of the data. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The first factor (eigenvalue = 5.70) explained 31.70% of the variance and consisted of all 16 items and its factor loadings were .31 and .75. Items which loaded onto this factor were summed to form a Perceived Sports Competence score which had an internal consistency of .87 for girls. Table 8.6 presents the factor loadings and communalities for Perceived Sports Competence Scale for girls and boys.
The one-dimensional factor structure of the PSCS found for girls and boys in the current study is inconsistent with the factor structure found in previous research among adolescents. Marsh, Marco and Apçý (2002) found that for Australian, Spanish and Turkish adolescents, the factor structure of the PSCS was relatively invariant. Distinct factors were found for the Strength, Endurance, Sport Competence and Physical Activity subscales. The structure of the PSCS has not been previously examined among preadolescent children. Additionally, it should be noted that the version of the PSCS was shortened from 11 subscales to four, and from six items per subscale to four items.

Table 8.6 Factor Loadings and Eigenvalues for the Perceived Sports Competence Scale for Girls and Boys

<table>
<thead>
<tr>
<th>Perceived Sports Competence Scale</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I do lots of sports, exercise and physical activities</td>
<td>0.69</td>
<td>0.70</td>
</tr>
<tr>
<td>2. I exercise or play hard enough to breathe hard (to huff and puff) many times a week</td>
<td>0.33</td>
<td>0.55</td>
</tr>
<tr>
<td>3. I would do well in a test of physical fitness</td>
<td>0.47</td>
<td>0.57</td>
</tr>
<tr>
<td>4. I do sports, exercise, dance or physical activities almost every day</td>
<td>0.32</td>
<td>0.31</td>
</tr>
<tr>
<td>5. I have good sports skills</td>
<td>0.72</td>
<td>0.75</td>
</tr>
<tr>
<td>6. Other people think that I am good at sports</td>
<td>0.61</td>
<td>0.66</td>
</tr>
<tr>
<td>7. I am better at sport than most of my friends</td>
<td>0.71</td>
<td>0.68</td>
</tr>
<tr>
<td>8. Most sports are easy for me</td>
<td>0.50</td>
<td>0.44</td>
</tr>
<tr>
<td>9. I am weak and have no muscles</td>
<td>0.42</td>
<td>0.31</td>
</tr>
<tr>
<td>10. I would do well in a test of strength</td>
<td>0.45</td>
<td>0.62</td>
</tr>
<tr>
<td>11. I am physically a strong person</td>
<td>0.58</td>
<td>0.56</td>
</tr>
<tr>
<td>12. I have lots of strength in my body</td>
<td>0.60</td>
<td>0.64</td>
</tr>
<tr>
<td>13. I can run a long way without stopping</td>
<td>0.63</td>
<td>0.55</td>
</tr>
<tr>
<td>14. I think I could run a long way without getting tried</td>
<td>0.56</td>
<td>0.52</td>
</tr>
<tr>
<td>15. I can play sport or do exercise for a long period of time without getting tired</td>
<td>0.59</td>
<td>0.50</td>
</tr>
<tr>
<td>16. I do exercise or activities that make me huff and puff for at least 30 minutes three or four times a week</td>
<td>0.52</td>
<td>0.41</td>
</tr>
</tbody>
</table>

| Eigenvalues | 5.60 | 5.70 |
| Percentage of total variance | 31.06 | 31.70 |
| Number of items | 16 | 16 |
| Cronbach alpha | .87 | .87 |
Descriptive Statistics for the Internalisation Scale

Table 8.7 shows the percentage of boys who answered ‘yes’, ‘in between’, or ‘no’ to each of the internalisation items. Overall, 43% of boys indicated that they wished they could look more muscular, like a footballer. Additionally, 40% of boys answered ‘yes’ to the question, ‘Photographs of muscular men make me wish I were more muscular’. The statement to which the largest number of boys disagreed with (44%) was ‘I would like to have a fit looking body shape’. The largest number of boys agreed with the statement ‘Photographs of fitter men make me wish I was more fit’ (49%).

Table 8.7 Frequencies of Boys’ Responses on Internalisation Items

<table>
<thead>
<tr>
<th>Internalisation Items</th>
<th>No %</th>
<th>In between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I wish I looked more muscular, like a footballer</td>
<td>33.30</td>
<td>23.70</td>
<td>43.00</td>
</tr>
<tr>
<td>Sports that show muscular men make me wish I was more muscular</td>
<td>42.10</td>
<td>26.30</td>
<td>31.60</td>
</tr>
<tr>
<td>I wish I had a fitter body like my favourite sportsman</td>
<td>38.60</td>
<td>21.90</td>
<td>37.80</td>
</tr>
<tr>
<td>Photographs of fitter men make me wish I was more fit</td>
<td>24.60</td>
<td>25.40</td>
<td>49.10</td>
</tr>
<tr>
<td>I would like to have a fit looking body shape</td>
<td>43.90</td>
<td>28.10</td>
<td>28.10</td>
</tr>
<tr>
<td>Photographs of muscular men make me wish I were more muscular</td>
<td>31.60</td>
<td>28.10</td>
<td>40.40</td>
</tr>
</tbody>
</table>

Among girls, 29% indicated ‘yes’ to the question, ‘Music videos that show thin women make me wish I was thin’. On the other hand, only 11% of girls responded with ‘yes’ to the question ‘I wish I looked like a model’. Similarly, only 16% of girls indicated that they often compared their appearance to models in magazines. In response to the statement, ‘Photographs of thin women make me wish I were thin’, 60% of girls disagreed answering ‘no’.
Table 8.8 Frequencies of Girls’ Responses on Internalisation Items

<table>
<thead>
<tr>
<th>Internalisation Items</th>
<th>No %</th>
<th>In between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would like to look like the models in magazines</td>
<td>44.30</td>
<td>33.90</td>
<td>21.70</td>
</tr>
<tr>
<td>Music videos that show thin women make me wish I was thin</td>
<td>31.30</td>
<td>40.00</td>
<td>28.70</td>
</tr>
<tr>
<td>I tend to compare my body to people in magazines</td>
<td>59.10</td>
<td>21.70</td>
<td>18.30</td>
</tr>
<tr>
<td>Photographs of thin women make me wish I were thin</td>
<td>59.60</td>
<td>27.00</td>
<td>23.50</td>
</tr>
<tr>
<td>I wish I looked like a model</td>
<td>69.60</td>
<td>19.10</td>
<td>11.30</td>
</tr>
<tr>
<td>I often compare my appearance to the models in magazines</td>
<td>62.60</td>
<td>20.00</td>
<td>16.50</td>
</tr>
</tbody>
</table>

Factor Analysis of the Boys’ Internalisation Scale

Boys’ data on the six items from the Internalisation scale were analysed and the significance of Bartlett’s test of sphericity ($\chi^2 [15] = 266.93, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .87) revealed that the data were appropriate for factor analysis (Tabachnick & Fidell, 2001).

As expected, the analysis indicated a one dimensional factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The single factor consisted of all six items and explained 58.26% of the variance. Additionally, all items loaded moderately to strongly on one factor (item loadings ranged from .54 to .87). Therefore, these results provide initial support for the use of the Internalisation Scale as a single factor. The internal consistency coefficient for the Internalisation Scale for boys was .86.

Factor Analysis of the Girls’ Internalisation Scale

For the girls’ data on the Internalisation Scale, the significance of Bartlett’s test of sphericity ($\chi^2 [15] = 240.27, p < .001$) and the size of the Kaiser–Meyer–Oklin
measure of sampling adequacy (KMO = .77) revealed that the girls’ Internalisation scale was a good candidate for factor analysis (Tabachnick & Fidell, 2001). Table 9 presents the factor analysis for internalisation scale for boys.

Consistent with the boys’ internalisation scale, the analysis indicated a one dimensional factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The single factor consisted of all six items and explained 52.71% of the variance. Additionally, all items loaded moderately to strongly on one factor (item loadings ranged from .56 to .77). Therefore, these results provide initial support for the use of the girls’ version of the Internalisation Scale as a single factor. The internal consistency coefficient for the girls’ Internalisation scale was .82. Table 8.10 presents the factor analysis for the internalisation scale for girls.

Table 8.9 Factor Loadings and Eigenvalues for the Internalisation Scale for Boys

<table>
<thead>
<tr>
<th>Internalisation Items</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I wish I looked more muscular, like a footballer</td>
<td>0.70</td>
</tr>
<tr>
<td>2. Sports that show muscular men make me wish I was more muscular</td>
<td>0.77</td>
</tr>
<tr>
<td>3. I wish I had a fitter body like my favourite sportsman</td>
<td>0.86</td>
</tr>
<tr>
<td>4. Photographs of fitter men make me wish I was more fit</td>
<td>0.54</td>
</tr>
<tr>
<td>5. I would like to have a fit looking body shape</td>
<td>0.74</td>
</tr>
<tr>
<td>6. Photographs of muscular men make me wish I were muscular</td>
<td>0.62</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eigenvalues</th>
<th>3.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of total variance</td>
<td>50.40</td>
</tr>
<tr>
<td>Number of items</td>
<td>6</td>
</tr>
<tr>
<td>Cronbach alpha</td>
<td>.86</td>
</tr>
</tbody>
</table>
Table 8.10 *Factor Loadings and Eigenvalues for the Internalisation Scale for Girls*

<table>
<thead>
<tr>
<th>Internalisation Item</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I would like to look like the models in magazines</td>
<td>0.72</td>
</tr>
<tr>
<td>2. Music videos that show thin women make me wish I was</td>
<td>0.56</td>
</tr>
<tr>
<td>3. I tend to compare my body to people in magazines</td>
<td>0.65</td>
</tr>
<tr>
<td>4. Photographs of thin women make me wish I were thin</td>
<td>0.57</td>
</tr>
<tr>
<td>5. I wish I looked like a model</td>
<td>0.66</td>
</tr>
<tr>
<td>6. I often compare my appearance to the models in magazines</td>
<td>0.77</td>
</tr>
</tbody>
</table>

Eigenvalues 3.16  
Percentage of total variance 43.63  
Number of items 6  
Cronbach alpha .82

**Descriptive Statistics for the Masculine and Feminine Gender Ideals Scales**

Table 8.11 shows the percentage of boys who answered ‘yes’, ‘in between’, or ‘no’ to each of the Masculine Gender Ideal items. The item which the highest percentage of boys agreed with was, ‘It is important for boys to be able to physically defend themselves’, to which 75% of boys responded ‘yes’. Fewer boys (41%) responded ‘yes’ to the question, ‘To be popular, boys need to be good at sport’ and 40% of boys agreed with the statement ‘It would be embarrassing for a boy if most girls could run faster than he could’.

Table 8.12 shows the percentage of girls who answered ‘yes’, ‘in between’, or ‘no’ to each of the Feminine Gender Ideal items. Overall, girls 37% of girls responded positively with ‘yes’ to the item ‘It would be embarrassing for a girl if boys were more neat and tidy than she was’. On the other hand, only 14% of girls responded with ‘yes’ to the question ‘It's important for girls to always look attractive’.
Table 8.11 *Frequencies of Boys’ Responses on Masculine Gender Ideal Items*

<table>
<thead>
<tr>
<th>Gender Ideal Items</th>
<th>No %</th>
<th>In between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is important for boys to be able to physically defend themselves.</td>
<td>6.10</td>
<td>18.40</td>
<td>75.40</td>
</tr>
<tr>
<td>2. To be popular, boys need to be good at sports.</td>
<td>35.10</td>
<td>22.80</td>
<td>41.20</td>
</tr>
<tr>
<td>3. It would be embarrassing for a boy if most girls could run faster than he could.</td>
<td>34.20</td>
<td>24.60</td>
<td>40.40</td>
</tr>
<tr>
<td>4. It’s important for boys to look like they are good at sports</td>
<td>32.50</td>
<td>21.90</td>
<td>44.70</td>
</tr>
<tr>
<td>5. Boys should be able to lift heavy things.</td>
<td>23.70</td>
<td>21.90</td>
<td>52.60</td>
</tr>
<tr>
<td>6. Boys should be able to throw a ball farther than most girls can.</td>
<td>16.70</td>
<td>21.10</td>
<td>62.40</td>
</tr>
<tr>
<td>7. It would be embarrassing if a girl could beat up a boy.</td>
<td>18.40</td>
<td>17.50</td>
<td>63.20</td>
</tr>
</tbody>
</table>

Table 8.12 *Frequencies of Girls’ Responses on Feminine Gender Ideal Items*

<table>
<thead>
<tr>
<th>Gender Ideal Items</th>
<th>No %</th>
<th>In between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It's important for girls to always look attractive</td>
<td>42.60</td>
<td>43.50</td>
<td>13.90</td>
</tr>
<tr>
<td>2. It would be embarrassing for a girl if she was bigger than most boys her age</td>
<td>36.50</td>
<td>35.70</td>
<td>27.8</td>
</tr>
<tr>
<td>3. It would be embarrassing for a girl if boys were more neat and tidy than she was</td>
<td>28.70</td>
<td>33.90</td>
<td>37.40</td>
</tr>
<tr>
<td>4. It is important for girls to always dress nicely</td>
<td>26.10</td>
<td>42.60</td>
<td>31.30</td>
</tr>
<tr>
<td>5. Girls should make sure their hair always looks nice</td>
<td>39.60</td>
<td>39.10</td>
<td>31.30</td>
</tr>
<tr>
<td>6. Girls shouldn't get dirty and messy playing sports at lunchtime</td>
<td>42.60</td>
<td>40.90</td>
<td>14.80</td>
</tr>
<tr>
<td>7. To be popular, girls need to be pretty</td>
<td>50.40</td>
<td>29.60</td>
<td>18.30</td>
</tr>
</tbody>
</table>

**Factor Analysis of the Masculine and Feminine Gender Ideals Scales**

The Masculine Gender Ideals scale was found to be appropriate for factor analysis. Bartlett’s test of sphericity was found to be significant ($\chi^2 [21] = 285.99, \ p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy was acceptable (KMO = .78). Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The single factor consisted of all seven items and explained 41.6% of the variance. Additionally, all items loaded moderately strongly on one factor (item loadings ranged from .41 to .87). Therefore,
these results provide initial support for the use of the Masculine Gender Ideals Scale as a single factor. The Cronbach’s alpha coefficient for boys’ Gender Ideals was .83. Table 8.13 presents the factor analysis for the Masculine Gender Ideal Scale.

Table 8.13 *Factor Loadings and Eigenvalues for the Masculine Gender Ideals Scale*

<table>
<thead>
<tr>
<th>Gender Ideals Item</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is important for boys to be able to physically defend themselves.</td>
<td>0.42</td>
</tr>
<tr>
<td>2. To be popular, boys need to be good at sports.</td>
<td>0.75</td>
</tr>
<tr>
<td>3. It would be embarrassing for a boy if most girls could run faster than he could.</td>
<td>0.59</td>
</tr>
<tr>
<td>4. It’s important for boys to look like they are good at sports</td>
<td>0.89</td>
</tr>
<tr>
<td>5. Boys should be able to lift heavy things.</td>
<td>0.60</td>
</tr>
<tr>
<td>6. Boys should be able to throw a ball farther than most girls can.</td>
<td>0.68</td>
</tr>
<tr>
<td>7. It would be embarrassing if a girl could beat up a boy.</td>
<td>0.48</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalues</td>
<td>3.45</td>
</tr>
<tr>
<td>Percentage of total variance</td>
<td>41.06</td>
</tr>
<tr>
<td>Number of items</td>
<td>7</td>
</tr>
<tr>
<td>Cronbach alpha</td>
<td>.83</td>
</tr>
</tbody>
</table>

The significance of Bartlett’s test of sphericity ($\chi^2 [21] = 343.41, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .78) revealed that the Feminine Gender Ideals scale was a good candidate for factor analysis. The analysis indicated a one dimensional factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The single factor consisted of all seven items and explained 53.10% of the variance. Additionally, all items loaded moderately strongly on one factor (item loadings ranged from .53 to .85). Therefore, these results provide initial support for the use of the Feminine Gender Ideals Scale as a single factor. Cronbach’s alpha coefficient for the Feminine Gender Ideal Scale was .85. Table 8.14 presents the factor analysis for the Feminine Gender Ideals Scale.
Table 8.14  *Factor Loadings and Eigenvalues for the Feminine Gender Ideals Scale*

<table>
<thead>
<tr>
<th>Gender Ideals Item</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It's important for girls to always look attractive</td>
<td>0.72</td>
</tr>
<tr>
<td>2. It would be embarrassing for a girl if she was bigger than most boys her age</td>
<td>0.71</td>
</tr>
<tr>
<td>3. It would be embarrassing for a girl if boys were more neat and tidy than she was</td>
<td>0.53</td>
</tr>
<tr>
<td>4. It is important for girls to always dress nicely</td>
<td>0.85</td>
</tr>
<tr>
<td>5. Girls should make sure their hair always looks nice</td>
<td>0.76</td>
</tr>
<tr>
<td>6. Girls shouldn't get dirty and messy playing sports at lunchtime</td>
<td>0.58</td>
</tr>
<tr>
<td>7. To be popular, girls need to be pretty</td>
<td>0.54</td>
</tr>
</tbody>
</table>

Eigenvalues 3.72  
Percentage of total variance 45.8  
Number of items 7  
Cronbach alpha .85

As expected girls’ and boys’ data on gender ideal scales were found to be best represented as a single factor. The girls’ version of the Feminine Gender Ideal scale was developed for the purpose of this study and has therefore not been previously factor analysed. The one dimensional factor structure of the Masculine Gender Ideal scale is consistent with the authors’ recommendations (Smolak & Stien, 2006).

**Descriptive Statistics for the Social Comparisons Scale**

Table 8.15 shows the percentages of boys and girls who answered ‘never’, ‘sometimes’, or ‘often’ to each of the items of the social comparison items. Overall, the majority of the children answered negatively, with responses falling between ‘never’ and ‘sometimes’, indicating that they generally did not think they compared themselves with others in regard to muscle, fitness and weight.
Overall, 45% of boys and half of girls (50%) indicated that they sometimes compared themselves with their peers in regard to their fitness. Fewer girls than boys, compared themselves to their peers in regard to their muscularity. For example, 60% of girls indicated that they never compared their muscularity with their peers, while 50% of boys indicated that they sometimes compared their muscularity with their peers. In regard to weight, 39% and 20% of girls indicated that they sometimes or often compared their weight with their peers. Among boys, 35% indicated they sometimes compared their weight with their peers and 12% indicated they often did so.

Boys indicated that they made more comparisons with sportsmen overall, than girls made comparisons with sportswomen. Among boys, 33% responded with ‘sometimes’ and 22% responded with ‘often’ to the question ‘Do you think about how fit you are in comparison to your favourite sportsman’. On the other hand, among girls only 29% responded with ‘sometimes’ and 7% responded with ‘often’ to the same question. Similar gender differences were observed for muscle-related and weight-related comparisons with sportsmen. For instance, 23% of boys responded with ‘often’ and 33% responded with ‘sometimes’ to the statement ‘Do you think about how fit you are in comparison to your favourite sportsman’. Among girls, 7% answered ‘often’ and 29% answered sometimes to the same question.

The majority of children generally indicated that they did not compare themselves on any domain to actors and singers. Sixty-two percent of boys and 53% of girls indicated that they never compared themselves with their favourite actors or singers in regard to their fitness. Similarly, 55% of boys and 64% of girls indicated that they never compared their muscle with their favourite actors or singers.
Table 8.15 *Frequencies of Girls’ and Boys’ Responses on Social Comparison Items*

<table>
<thead>
<tr>
<th>Social Comparison Item</th>
<th>Boys</th>
<th></th>
<th></th>
<th>Girls</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you think about how fit you are in comparison to other children your age?</td>
<td>Never%</td>
<td>29.20</td>
<td>45.10</td>
<td>Often %</td>
<td>25.70</td>
<td>Never%</td>
</tr>
<tr>
<td>2. Do you think about how muscular you are in comparison to other children your age?</td>
<td>42.60</td>
<td>50.20</td>
<td>Sometimes%</td>
<td>8.00</td>
<td>60.50</td>
<td>29.30</td>
</tr>
<tr>
<td>3. Do you think about your body weight in comparison to other children your age?</td>
<td>53.50</td>
<td>35.40</td>
<td>Often %</td>
<td>12.10</td>
<td>41.00</td>
<td>39.50</td>
</tr>
<tr>
<td>4. Do you think about how fit you are in comparison to your favourite sportsman/woman</td>
<td>45.10</td>
<td>33.30</td>
<td>Often %</td>
<td>22.60</td>
<td>61.70</td>
<td>29.00</td>
</tr>
<tr>
<td>5. Do you think about how muscular you are in comparison to your favourite sportsman/woman</td>
<td>48.20</td>
<td>37.20</td>
<td>Often %</td>
<td>15.60</td>
<td>68.20</td>
<td>19.10</td>
</tr>
<tr>
<td>6. Do you think about your body weight in comparison to your favourite sportsman/woman</td>
<td>52.80</td>
<td>35.20</td>
<td>Often %</td>
<td>12.00</td>
<td>63.40</td>
<td>26.60</td>
</tr>
<tr>
<td>7. Do you think about how fit you are in comparison to your favourite actor or singer</td>
<td>62.50</td>
<td>33.10</td>
<td>Often %</td>
<td>5.30</td>
<td>53.20</td>
<td>40.30</td>
</tr>
<tr>
<td>8. Do you think about how muscular you are in comparison to your favourite actor or singer</td>
<td>55.20</td>
<td>31.20</td>
<td>Often %</td>
<td>13.60</td>
<td>64.30</td>
<td>27.20</td>
</tr>
<tr>
<td>9. Do you think about your body weight in comparison to your favourite actor or singer</td>
<td>58.40</td>
<td>35.80</td>
<td>Often %</td>
<td>6.00</td>
<td>50.00</td>
<td>40.50</td>
</tr>
</tbody>
</table>


Factor Analysis of the Social Comparison Scale

The significance of Bartlett’s test of sphericity ($\chi^2 [36] = 357.85, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .77) revealed that the boys’ scores on the Social Comparison Scale were suitable for factor analysis. A one dimensional solution was found to be the best representation of the data for boys. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. The single factor consisted of all six items and explained 37.11% of the variance. Additionally, all items loaded moderately to strongly on one factor (item loadings ranged from .37 to .75). Therefore, these results provide initial support for a single dimension for the Social Comparison Scale for boys. The nine items were summed to form an overall social comparison score which had an internal consistency of .83 for boys.

For girls in the current study, the significance of Bartlett’s test of sphericity ($\chi^2 [36] = 300.89, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .76) revealed that scores on the Social Comparison Scale were appropriate for factor analysis (Tabachnick & Fidell, 2007). As found for the boys, a one dimensional solution was found to be the best representation of the data for girls. Inspection of the scree plot demonstrated a noticeable change in the slopes after the first factor. For girls, the first item (Do you think about how fit you are in comparison to other children your age?), did not have a loading of above .3 on the factor. The analysis was recomputed without this item.

In the recomputed analysis, the single factor (eigenvalue = 5.39) consisted of all remaining 8 items and explained 35.70% of the variance. Additionally, all items loaded moderately to strongly on one factor (item loadings ranged from .39 to .75).
These items were summed to form an overall social comparison score which had an internal consistency of .80 for girls. Factor loadings based on a factor analysis for Social Comparison Scale are presented for girls and boys in Table 8.16.

Table 8.16 Factor Loadings and Eigenvalues for Social Comparison Scale for Girls and Boys

<table>
<thead>
<tr>
<th>Social Comparison Scale</th>
<th>Boys Factor 1</th>
<th>Girls Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Do you think about how fit you are in comparison to other children your age?</td>
<td>0.44</td>
<td>(.19)</td>
</tr>
<tr>
<td>2. Do you think about how muscular you are in comparison to other children your age?</td>
<td>0.37</td>
<td>0.40</td>
</tr>
<tr>
<td>3. Do you think about your body weight in comparison to other children your age?</td>
<td>0.44</td>
<td>0.40</td>
</tr>
<tr>
<td>4. Do you think about how fit you are in comparison to your favourite sportsman/woman</td>
<td>0.69</td>
<td>0.62</td>
</tr>
<tr>
<td>5. Do you think about how muscular you are in comparison to your favourite sportsman/woman</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>6. Do you think about your body weight in comparison to your favourite sportsman/woman</td>
<td>0.69</td>
<td>0.56</td>
</tr>
<tr>
<td>7. Do you think about how fit you are in comparison to your favourite actor or singer</td>
<td>0.64</td>
<td>0.73</td>
</tr>
<tr>
<td>8. Do you think about how muscular you are in comparison to your favourite actor or singer</td>
<td>0.67</td>
<td>0.70</td>
</tr>
<tr>
<td>9. Do you think about your body weight in comparison to your favourite actor or singer</td>
<td>0.67</td>
<td>0.51</td>
</tr>
</tbody>
</table>

| Eigenvalues | 3.93 | 3.44 |
| Percentage of total variance | 37.11 | 35.74 |
| Number of items | 9 | 8 |
| Cronbach alpha | .83 | .80 |

Descriptive Statistics for Peer Influence Scale

Table 8.17 shows the percentage of boys and girls who answered ‘yes’, ‘in between’, or ‘no’ to each of the items on the Peer Influence, Sports Media Influence and Actor Media Influence scales. In general, children answered ‘No’ or ‘In between’ to questions regarding peer pressure. Eighty-five percent of boys and 78% of girls indicated that their peers never gave them the idea that they needed to lose
weight. In response to the item ‘Do your friends ever give you the idea you need to gain muscle?’ 17% of boys responded with ‘yes’, whereas only 4% of girls responded with ‘yes’. Children’s responses to peer modelling items were more evenly distributed across the three-point scale. For example, in response to the question, ‘Do your friends try to gain more muscle?’ 33% of boys answered with ‘no’, 28% answered ‘in between’ and 37% answered ‘yes’. On the same item, 43% of girls responded ‘no’, 29% responded ‘in between’ and 26% responded with ‘yes’. The highest frequency of ‘yes’ responses was in relation to the question ‘Do any of your friends try to get fitter?’ for girls (40%) and for boys (46%).

Children generally responded negatively to items relating to pressure from sports media. Twenty percent of boys and 19% of girls indicated ‘yes’ to the question ‘Do sportsmen ever give you the idea you need to lose weight?’. Similarly, 32% of boys and only 16% of girls answered ‘yes’ to the question ‘Do sportsmen ever give you the idea you need to gain muscle?’ On the other hand, children generally responded positively to items relating to modelling from sports media. Only 7% of boys and 11% of girls answered ‘no’ to the question ‘Do sportsmen try to gain muscle?’ Additionally, 84% of boys and 69% of girls answered ‘yes’ to the question ‘Do sportsmen try to get fitter?’

The majority of children responded negatively to items relating to pressure from actor and singers. Only 8% of boys and 7% of girls answered ‘yes’ to the question ‘Do actors/singers ever give you the idea you need to lose weight?’ Similarly, only 10% of boys and 12% of girls answered ‘yes’ to the question ‘Do actors/singers ever give you the idea you need to gain muscle?’ Children’s responses to actor and singer modelling items were more evenly distributed. In response to the
question ‘Do actors/singers try to lose weight?’ 30% of boys answered with ‘no’, 30% answered ‘in between’ and 40% answered with ‘yes’. Similarly, 23% of girls responded with ‘no’, 29% responded with ‘in between’ and 49% responded with ‘yes’ to the same item.

**Factor Analysis of Peer Influences Scale**

For boys’ scores the significance of Bartlett’s test of sphericity ($\chi^2 [15] = 189.42, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .71) revealed that the Peer Influences Scale was an appropriate candidate for factor analysis (Tabachnick & Fidell, 2007). The analysis suggested a two-factor solution. Inspection of the scree plot demonstrated a sharp change in the slopes after the second factor. The first factor, Peer Pressure, consisted of three items and explained 34.23% of the variance, the second factor, Peer Modelling, consisted of three items and explained 19.54% of the variance. Interpretation of the two factors was consistent with expectations, with Peer Pressure items loading strongly on factor one and Peer Modelling items loading strongly on factor two. The result of this analysis supports the use of the Peer Pressure and Peer Modelling items as separate scales. For boys’ Peer Pressure and Peer Modelling subscales, the alpha coefficients were .77 and .74, respectively.

For girls’ scores the significance of Bartlett’s test of sphericity ($\chi^2 [15] = 119.62, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .60) revealed that the Peer Influences Scale was an acceptable candidate for factor analysis (Tabachnick & Fidell, 2007). The analysis indicated a two-factor solution. Inspection of the scree plot demonstrated a sharp change in the slopes after the second factor.
Table 8.17 *Frequencies of Girls’ and Boys’ Responses to Peer and Media Influence Items*

<table>
<thead>
<tr>
<th>Peer and Media Influences</th>
<th>No %</th>
<th>In Between %</th>
<th>Yes %</th>
<th>No %</th>
<th>In Between %</th>
<th>Yes %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do your friends ever give you the idea you need to lose weight</td>
<td>85.00</td>
<td>5.20</td>
<td>9.80</td>
<td>78.30</td>
<td>13.60</td>
<td>8.10</td>
</tr>
<tr>
<td>Do your friends ever give you the idea you need to gain muscle</td>
<td>66.20</td>
<td>16.40</td>
<td>17.40</td>
<td>83.70</td>
<td>10.00</td>
<td>4.30</td>
</tr>
<tr>
<td>Do your friends ever give you the idea you need to be fitter</td>
<td>72.50</td>
<td>15.10</td>
<td>13.40</td>
<td>73.20</td>
<td>17.10</td>
<td>9.70</td>
</tr>
<tr>
<td>Do any of your friends try to lose weight</td>
<td>52.20</td>
<td>23.00</td>
<td>24.80</td>
<td>37.60</td>
<td>24.30</td>
<td>36.10</td>
</tr>
<tr>
<td>Do any of your friends try to gain muscle</td>
<td>33.40</td>
<td>28.10</td>
<td>37.50</td>
<td>43.00</td>
<td>29.60</td>
<td>26.40</td>
</tr>
<tr>
<td>Do any of your friends try to get fitter</td>
<td>28.00</td>
<td>24.60</td>
<td>46.40</td>
<td>22.10</td>
<td>36.20</td>
<td>40.70</td>
</tr>
<tr>
<td>Do sportsmen ever give you the idea you need to lose weight</td>
<td>64.50</td>
<td>15.20</td>
<td>20.30</td>
<td>58.10</td>
<td>22.60</td>
<td>19.30</td>
</tr>
<tr>
<td>Do sportsmen ever give you the idea you need to gain muscle</td>
<td>49.60</td>
<td>19.40</td>
<td>32.00</td>
<td>60.60</td>
<td>23.30</td>
<td>16.10</td>
</tr>
<tr>
<td>Do sportsmen ever give you the idea you need to be fitter</td>
<td>55.10</td>
<td>15.70</td>
<td>30.20</td>
<td>49.20</td>
<td>31.50</td>
<td>20.30</td>
</tr>
<tr>
<td>Do sportsmen try to lose weight</td>
<td>25.80</td>
<td>22.10</td>
<td>53.10</td>
<td>16.50</td>
<td>20.10</td>
<td>63.40</td>
</tr>
<tr>
<td>Do sportsmen try to gain muscle</td>
<td>7.30</td>
<td>14.30</td>
<td>80.40</td>
<td>11.70</td>
<td>20.20</td>
<td>61.10</td>
</tr>
<tr>
<td>Do sportsmen try to get fitter</td>
<td>5.00</td>
<td>10.50</td>
<td>84.50</td>
<td>13.20</td>
<td>17.70</td>
<td>69.10</td>
</tr>
<tr>
<td>Do actors/singers ever give you the idea you need to lose weight</td>
<td>81.50</td>
<td>12.30</td>
<td>7.20</td>
<td>73.70</td>
<td>19.10</td>
<td>8.20</td>
</tr>
<tr>
<td>Do actors/singers ever give you the idea you need to gain muscle</td>
<td>72.80</td>
<td>19.10</td>
<td>10.10</td>
<td>76.80</td>
<td>12.10</td>
<td>12.10</td>
</tr>
<tr>
<td>Do actors/singers ever give you the idea you need to be fitter</td>
<td>73.10</td>
<td>18.50</td>
<td>8.40</td>
<td>70.10</td>
<td>17.50</td>
<td>13.40</td>
</tr>
<tr>
<td>Do actors/singers try to lose weight</td>
<td>30.30</td>
<td>30.20</td>
<td>40.50</td>
<td>23.10</td>
<td>29.00</td>
<td>49.80</td>
</tr>
<tr>
<td>Do actors/singers try to gain muscle</td>
<td>26.40</td>
<td>27.50</td>
<td>46.10</td>
<td>30.50</td>
<td>38.10</td>
<td>46.40</td>
</tr>
<tr>
<td>Do actors/singers try to get fitter</td>
<td>19.60</td>
<td>30.40</td>
<td>51.00</td>
<td>15.30</td>
<td>33.00</td>
<td>50.70</td>
</tr>
</tbody>
</table>
The first factor, Peer Pressure, consisted of three items and explained 34.23% of the variance, the second factor, Peer Modelling, consisted of three items and explained 19.54% of the variance. For the girls, item 2 (Do your friends ever give you the idea you need to gain muscle?) did not have a loading of above .3 on either factor and had a communality value of .06, therefore this variable was removed from the analysis.

In the recomputed analysis, Factor 1 (Eigenvalue = 2.06) explained 24.05% of the variance and item loadings were .42 and .99. Factor 2, (Eigenvalue = 1.34) explained 30.71% of the variance and item loadings ranged from .52 and .80. As the Peer Pressure items loading strongly on factor one and Peer Modelling items loading strongly on factor two, the result of this analysis supports the use of the Peer Pressure and Peer Modelling items as separate scales. For the Peer Modelling subscale, the alpha coefficient was and .73. The final Peer Pressure subscale for girls included only two items and therefore alpha coefficient could not be calculated. The correlation between the two Peer Pressure items was .59. Table 8.18 presents the factor loadings and eigenvalues for the peer influence scales for boys and girls.

**Factor Analysis of Sport Media Influences Scale**

The Sport Media Influences scale for boys was found to be appropriate for factor analysis. Bartlett’s test of sphericity was significant ($\chi^2 [15] =185.13, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy was found to be acceptable (KMO = .71). The analysis indicated a two-factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the second factor.
Table 8.18  *Factor Loadings and Eigenvalues for the Peer Influence Scales for Boys and Girls*

<table>
<thead>
<tr>
<th>Peer Influences Item</th>
<th>Boys Pressure</th>
<th>Boys Modelling</th>
<th>Girls Pressure</th>
<th>Girls Modelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do your friends ever give you the idea you need to lose weight?</td>
<td>0.53</td>
<td>0.05</td>
<td><strong>0.42</strong></td>
<td>0.09</td>
</tr>
<tr>
<td>2. Do your friends ever give you the idea you need to gain muscle?</td>
<td>0.44</td>
<td>0.10</td>
<td>(0.18)</td>
<td>(0.13)</td>
</tr>
<tr>
<td>3. Do your friends ever give you the idea you need to be fitter</td>
<td><strong>0.98</strong></td>
<td>-0.04</td>
<td><strong>1.01</strong></td>
<td>-0.15</td>
</tr>
<tr>
<td>4. Do any of your friends try to lose weight?</td>
<td>0.12</td>
<td><strong>0.66</strong></td>
<td>0.04</td>
<td><strong>0.80</strong></td>
</tr>
<tr>
<td>5. Do any of your friends try to gain muscle?</td>
<td>0.17</td>
<td><strong>0.55</strong></td>
<td>-0.09</td>
<td><strong>0.53</strong></td>
</tr>
<tr>
<td>6. Do your friends try to get fitter?</td>
<td>0.26</td>
<td><strong>0.79</strong></td>
<td>0.13</td>
<td><strong>0.75</strong></td>
</tr>
</tbody>
</table>

| Eigenvalues | 2.63 | 1.44 | 2.06 | 1.34 |
| Percentage of total variance | 34.23 | 19.54 | 24.05 | 30.71 |
| Number of items | 3 | 3 | 2 | 3 |
| Cronbach alpha | .77 | .74 | N/A | .73 |

*Note:* Not applicable as only two items.
The first factor, Sport Media Pressure, consisted of three items and explained 35.36% of the variance, the second factor, Sport Media Modelling, consisted of three items and explained 14.76% of the variance. Interpretation of the two factors was consistent with expectations, with Sport Media Pressure items loading strongly on factor one and Sport Media Modelling items loading strongly on factor two. The result of this analysis supports the use of the Sport Media Pressure and Sport Media Modelling items as separate scales. The alpha coefficient for boys’ Sport Media Pressure was .84. For the Sport Media Modelling subscale, the alpha coefficient was quite low at .60.

For girls’ data on the Sports Media Influence Scale, the significance of Bartlett’s test of sphericity ($\chi^2 [15] = 232.62, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .70) revealed that the Sport Media Influences scale was an appropriate candidate for factor analysis. As found for the boys, the analysis indicated a two-factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the second factor. The first factor, Sport Media Pressure, consisted of three items and explained 35.44% of the variance, the second factor, Sport Media Modelling, consisted of three items and explained 2% of the variance. The result of this analysis supports the use of the Sport Media Pressure and Sport Media Modelling items as separate scales for preadolescent girls. For girls, Sport Media Pressure and Sport Media Modelling subscales, the alpha coefficients were .72 and .82, respectively. Table 8.19 presents the factor loadings and eigenvalues for the sports media influence scales for boys and girls.
Table 8.19 *Factor loadings and Eigenvalues for Sports Media Influence Scale for Boys and Girls*

<table>
<thead>
<tr>
<th>Sports Media Influences</th>
<th>Boys</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Girls</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td></td>
<td>Pressure</td>
<td>Modelling</td>
<td>Pressure</td>
<td>Modelling</td>
<td></td>
<td>Pressure</td>
<td>Modelling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Do sportsmen give you the idea you need to lose weight?</td>
<td></td>
<td>0.73</td>
<td>0.08</td>
<td><strong>0.63</strong></td>
<td>-0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do sportsmen give you the idea you need to gain muscle?</td>
<td></td>
<td><strong>0.89</strong></td>
<td>-0.09</td>
<td><strong>0.82</strong></td>
<td>-0.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do sportsmen given the idea you need to be fitter?</td>
<td></td>
<td>0.77</td>
<td>0.03</td>
<td><strong>0.59</strong></td>
<td>0.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Do you think sportsmen men try to lose weight?</td>
<td></td>
<td>0.02</td>
<td><strong>0.57</strong></td>
<td>0.09</td>
<td><strong>0.67</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Do you think sportsmen men try to gain muscle?</td>
<td></td>
<td>0.05</td>
<td><strong>0.61</strong></td>
<td>0.03</td>
<td><strong>0.68</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Do you think sportsmen try to get fitter?</td>
<td></td>
<td>-0.05</td>
<td><strong>0.60</strong></td>
<td>-0.11</td>
<td><strong>1.04</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eigenvalues</th>
<th>Boys</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Girls</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of total variance</td>
<td>2.58</td>
<td>1.41</td>
<td>1.36</td>
<td>2.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of items</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cronbach alpha</td>
<td>.84</td>
<td>.60</td>
<td>.82</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Factor Analysis of the Actor Media Influences

For the boys’ data on the Actor Media Influence Scale the significance of Bartlett’s test of sphericity ($\chi^2[15] = 195.12, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .69) revealed that the Actor Media influences scale was an appropriate candidate for factor analysis. The analysis indicated a two-factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the second factor. The first factor, Actor Media Pressure, consisted of three items and explained 33.96% of the variance. The second factor, Actor Media Modelling, consisted of three items and explained 19.84% of the variance. Interpretation of the two factors was consistent with expectations, with Actor Media Pressure items loading strongly on factor one and Actor Media Modelling items loading strongly on factor two. The result of this analysis supports the use of the Actor Media Pressure and Actor Media Modelling subscales, the alpha coefficients were .69 and .82, respectively.

For the girls’ scores on the Actor Media Influence Scale, the significance of Bartlett’s test of sphericity ($\chi^2 [15] = 213.32, p < .001$) and the size of the Kaiser–Meyer–Oklin measure of sampling adequacy (KMO = .74) revealed that the Actor Media influences scale was an appropriate candidate for factor analysis. The analysis indicated a two-factor solution. Inspection of the scree plot demonstrated a noticeable change in the slopes after the second factor. The first factor, Actor Media Pressure, consisted of three items and explained 38.97% of the variance. The second factor, Actor Media Modelling, consisted of three items and explained 16.53% of the variance. The result of this analysis provides support for the use of the Actor Media
Pressure and Actor Media Modelling items as separate scales. Table 8.20 presents the factor loadings and eigenvalues for the peer influence scales for boys and girls.

Two clear factors were identified for the Peer Influences Scale, the Sport Media Influence Scale, and the Actor Media Influence Scale. The two-factor structure was found to be invariant across boys and girls in the current study. These scales were substantially adapted for the purpose of the current study, and therefore are not directly comparable to previous research. However, McCabe and Ricciardelli (2001) also found that among 444 adolescent boys and girls, the underlying factor structure was distinguished by the nature of the message (decrease weight, increase weight and increase muscle tone). In contrast, the current study demonstrated that peer and media items were distinguished by the type of influence (pressure or modelling). It is important to note that it was not possible to examine any further distinctions beyond the pressure and modelling subscales due the number of items included. Within the Pressure and Modelling subscales, the domains of weight, muscle and fitness were each represented by one item. Therefore, further distinctions between weight, fitness and muscle items were not possible as this would reduce the subscales to single items.

In the original version of the scale, further distinctions between weight and muscle-related influence from media and peers were possible. For example, McCabe and Ricciardelli (2001) found that perceived media influences were best represented in terms of three factors relating to weight loss, weight gain, and muscle gain. This was possible as there were nine items assessing media influence, with three items per domain (e.g., three weight loss items, three weight gain items and three muscle gain items).
Table 8.20 Factor Loadings and Eigenvalues for Actor Media Influence Scale for Boys and Girls

<table>
<thead>
<tr>
<th>Actor Media Influences</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do actors/singers give you the idea you need to lose weight?</td>
<td>0.52, 0.08</td>
<td>0.86, 0.00</td>
</tr>
<tr>
<td>2. Do actors/singers give you the idea you need to gain muscle?</td>
<td>0.78, -0.05</td>
<td>0.62, 0.00</td>
</tr>
<tr>
<td>3. Do actors/singers given the idea you need to be fitter?</td>
<td>0.68, -0.02</td>
<td>0.76, 0.01</td>
</tr>
<tr>
<td>4. Do you think actors/singers try to lose weight?</td>
<td>-0.09, 0.74</td>
<td>-0.09, 0.69</td>
</tr>
<tr>
<td>5. Do you think actors/singers men try to gain muscle?</td>
<td>0.02, 0.86</td>
<td>0.06, 0.74</td>
</tr>
<tr>
<td>6. Do you think actors/singers try to get fitter?</td>
<td>0.10, 0.76</td>
<td>0.08, 0.73</td>
</tr>
</tbody>
</table>

| Eigenvalues | 2.47 | 1.65 | 2.78 | 1.42 |
| Percentage of total variance | 33.96 | 19.84 | 38.97 | 16.53 |
| Number of items | 3 | 3 | 3 | 3 |
| Cronbach alpha | .69 | .82 | .78 | .76 |
CHAPTER 9

Results: Preliminary Analyses and Path Analysis

Study 2 was designed to examine the inter-relationships between sociocultural variables, Body Esteem and Body Change Strategies among preadolescent girls and boys. Modifications were made to the existing Tripartite Model and separate models were proposed for boys and girls. An extended version of the Tripartite Influence Model was developed for preadolescent boys and this included the variables of Perceived Sports Competence and Masculine Gender Ideals. Another version of the model was developed for preadolescent girls and this included Feminine Gender Ideals. This chapter details the preliminary analyses and examination of extended Tripartite Influence Models for boys and girls.

Preliminary Analyses

Twenty-one univariate outliers were found for girls and boys across the subscales of Perceived Sports Competence, Body Esteem, Internalisation and Actor Media Pressure. Cases with standardised scores over ±3.29 (p<.001) were categorised as univariate outliers (Tabacnick & Fidell, 2007). Raw scores on variables for the univariate outliers were changed so that they were equal to or one unit larger than the next most extreme score in the distribution (Tabachnick & Fidell, 2007). Multivariate outliers were screened using Mahalanobis distance. Among girls, no cases were found to exceed the critical value (p < .001). Among boys one case was identified which exceeded the critical value (p < .001). This case was removed from the sample, leaving a final sample of 228, including 113 boys and 115 girls.

The data were examined for normality of distribution by inspection of skew and kurtosis values and histograms. It is recommended that variables that have
absolute values of skewness > 3 and kurtosis > 7 should be transformed (Tabachnick & Fidell, 2007). Skewness and Kurtosis values for each of the variables were lower than these recommended values for boys (skewness range = -.04 to 1.69, kurtosis range = .24 to 1.55) and girls (skewness range = -.09 to 1.42, kurtosis range = .11 to 5.93). However, an inspection of the histograms indicated that the variables: Peer Pressure (boys and girls), Actor Media Pressure (boys and girls) and Sports Media Pressure (girls) were not normally distributed. Therefore these variables were transformed using a log transformation in order to reduce the effect of positive skew. A summary of skewness and kurtosis values for all variables is presented in Table 9.1.

Table 9.1 Skewness and Kurtosis of Variables for Boys and Girls

<table>
<thead>
<tr>
<th>Scale</th>
<th>Skew</th>
<th>Kurtosis</th>
<th>Skew</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Body Esteem</td>
<td>-0.74</td>
<td>0.24</td>
<td>-0.52</td>
<td>-0.59</td>
</tr>
<tr>
<td>2. Body Change</td>
<td>-0.04</td>
<td>-0.93</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Weight Change</td>
<td>-</td>
<td>-</td>
<td>-0.09</td>
<td>-1.05</td>
</tr>
<tr>
<td>3. Muscle Change</td>
<td>-</td>
<td>-</td>
<td>0.36</td>
<td>-0.74</td>
</tr>
<tr>
<td>4. Perceived Sports Competence</td>
<td>-0.06</td>
<td>-0.72</td>
<td>-0.56</td>
<td>0.13</td>
</tr>
<tr>
<td>5. Internalisation</td>
<td>-0.06</td>
<td>-1.24</td>
<td>-0.56</td>
<td>-0.21</td>
</tr>
<tr>
<td>6. Gender Ideals</td>
<td>-0.37</td>
<td>-0.87</td>
<td>0.19</td>
<td>-0.81</td>
</tr>
<tr>
<td>7. Social Comparisons</td>
<td>0.50</td>
<td>-0.34</td>
<td>0.74</td>
<td>0.11</td>
</tr>
<tr>
<td>8. Peer Pressure</td>
<td>1.54</td>
<td>1.55</td>
<td>1.42</td>
<td>5.93</td>
</tr>
<tr>
<td>9. Peer Modelling</td>
<td>-0.30</td>
<td>-1.17</td>
<td>-0.57</td>
<td>-0.69</td>
</tr>
<tr>
<td>10. Sport Pressure</td>
<td>0.56</td>
<td>-1.16</td>
<td>0.79</td>
<td>-0.32</td>
</tr>
<tr>
<td>11. Sport Modelling</td>
<td>-1.20</td>
<td>0.96</td>
<td>-1.21</td>
<td>0.29</td>
</tr>
<tr>
<td>12. Actor Pressure</td>
<td>1.69</td>
<td>2.50</td>
<td>1.50</td>
<td>1.42</td>
</tr>
<tr>
<td>13. Actor Modelling</td>
<td>-0.30</td>
<td>-1.17</td>
<td>-0.57</td>
<td>-0.69</td>
</tr>
</tbody>
</table>

Note: Dash indicates that the subscale was not relevant to either boys or girls.
All variables were also assessed for linearity, multicollinearity, and singularity using scatterplots and bivariate correlations. Visual inspection of scatterplots of each variable indicated that no violations of linearity were present. A summary of bivariate correlations for boys are presented in Table 9.2 and for girls in Table 9.3. Inspection of bivariate correlations across boys and girls revealed no correlation above 0.90. The highest correlation observed was 0.53.

**Bivariate Correlations**

Among girls, Body Esteem was found to be negatively correlated with Weight Change \((r = -0.24)\), but not significantly correlated with Muscle Change \((r = -0.07)\). For girls, the two subscales of the Body Change Inventory (Weight and Muscle) were significantly, positively correlated with each other. On the other hand, among boys, Body Esteem was not significantly correlated with the overall measure of Body Change.

Among boys, Body Esteem was significantly correlated with Perceived Sports Competence \((r = .52)\), Internalisation \((r = -0.31)\), Peer Pressure \((r = -0.30)\), Peer Modelling \((r = -0.23)\), Sport Media Pressure \((r = -0.33)\) and Actor Media Pressure \((r = -0.18)\). For girls, Body Esteem was also significantly correlated with Social Comparisons \((r = -0.26)\), as well Perceived Sports Competence \((r = 0.42)\), Internalisation \((r = -0.36)\), Peer Pressure \((r = -0.35)\), Sport Media Pressure \((r = -0.21)\), and Actor Media Pressure \((r = -0.45)\) and Actor Media Modelling \((r = -0.23)\).

For Boys, Body Change was significantly correlated with Internalisation, Gender Ideals and Social Comparisons \((r = .38, r = .39, r = .53,\) respectively). Whereas for girls, Weight Change was significantly correlated with Internalisation and Social Comparisons \((r = .23, r = .30,\) respectively), but not Feminine Gender Ideals.
There were some additional gender differences noted within the bivariate correlations. For boys, Perceived Sports Competence was significantly correlated with Internalisation \((r = .21)\), Masculine Gender Ideals \((r = .25)\) and Sport Media Modelling \((r = .25)\). Whereas for girls, these relationships were not supported, in fact the only variable correlated with Perceived Sports Competence was Social Comparisons \((r = -.24)\).

For girls and boys, Internalisation was significantly correlated with Masculine/Feminine Gender ideals (girls \(r = .20\) and boys \(r = .44\)), Social Comparisons (girls \(r = .35\) and boys \(r = .38\)), Peer Pressure (girls \(r = .32\) and boys \(r = .19\)), Peer Modelling (girls \(r = .34\) and boys \(r = .30\)), Sport Media Pressure (girls \(r = .34\) and boys \(r = .49\)), and Actor Media Pressure (girls \(r = .49\) and boys \(r = .36\)). For boys only, Internalisation was also significantly correlated with Sport Media Modelling \((r = .21)\).

For boys, Masculine Gender Ideals was associated with Peer Pressure \((r = .25)\), Peer Modelling \((r = .19)\), Sport Media Pressure \((r = .32)\), Sport Modelling \((r = .19)\), Actor Media Pressure \((r = .25)\). Additionally, for boys Social Comparisons were also significantly correlated with Peer Pressure \((r = .29)\), Peer Modelling \((r = .23)\), Sports Media Pressure \((r = .28)\), and Actor Media Pressure \((r = .20)\). On the other hand, among the girls, Feminine Gender Ideals was only significantly correlated with, Peer Pressure \((r = .32)\), Peer Modelling \((r = .19)\), Sport Media Pressure \((r = .31)\) and Actor Pressure \((r = .25)\). For the girls, Social Comparisons were significantly correlated with all of the peer and media influence variables (Peer Pressure, \(r = .22\), Peer Modelling, \(r = .40\), Sport Media Pressure, \(r = .46\), Sport Media Modelling, \(r = .19\), Actor Media Pressure \(r = .39\), Actor Media Modelling \(r = .21\).
Table 9.2 Correlations, Mean and Standard Deviations for Boys

<table>
<thead>
<tr>
<th>Correlations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Body Esteem</td>
<td>-</td>
<td>-0.14</td>
<td>0.52**</td>
<td>-0.31**</td>
<td>-0.09</td>
<td>-0.14</td>
<td>-0.30**</td>
<td>-0.23*</td>
<td>-0.33**</td>
<td>-0.06</td>
<td>-0.18*</td>
<td>-0.08</td>
</tr>
<tr>
<td>2. Body Change</td>
<td>-</td>
<td>0.10</td>
<td>0.38**</td>
<td>0.39**</td>
<td>0.53**</td>
<td>0.24**</td>
<td>0.25**</td>
<td>0.28**</td>
<td>0.05</td>
<td>0.21*</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>3. Perceived Sports Competence</td>
<td>-</td>
<td>0.210*</td>
<td>0.25**</td>
<td>0.18</td>
<td>-0.07</td>
<td>0.09</td>
<td>0.01</td>
<td>0.20*</td>
<td>0.07</td>
<td>0.17</td>
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<td></td>
</tr>
<tr>
<td>4. Internalisation</td>
<td>-</td>
<td>0.44**</td>
<td>0.38**</td>
<td>0.19*</td>
<td>0.30**</td>
<td>.49**</td>
<td>0.21*</td>
<td>0.36**</td>
<td>0.10</td>
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</tr>
<tr>
<td>5. Gender Ideals</td>
<td>-</td>
<td>0.31**</td>
<td>0.25**</td>
<td>0.19*</td>
<td>0.32**</td>
<td>0.19*</td>
<td>0.25**</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Social Comparisons</td>
<td>-</td>
<td>0.29**</td>
<td>0.23*</td>
<td>0.28**</td>
<td>-0.04</td>
<td>0.20*</td>
<td>0.07</td>
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<td>7. Peer Pressure</td>
<td>-</td>
<td>0.32**</td>
<td>0.44**</td>
<td>0.10</td>
<td>0.24*</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. Peer Modelling</td>
<td>-</td>
<td>0.23*</td>
<td>0.14</td>
<td>0.22*</td>
<td>0.16</td>
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<tr>
<td>9. Sport Pressure</td>
<td>-</td>
<td>0.27**</td>
<td>0.45**</td>
<td>0.15</td>
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<td>10. Sport Modelling</td>
<td>-</td>
<td>-0.01</td>
<td>0.28**</td>
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<td></td>
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<tr>
<td>11. Actor Pressure</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12. Actor Modelling</td>
<td>-</td>
<td>0.20*</td>
<td></td>
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<tr>
<td>Mean</td>
<td>34.13</td>
<td>7.60</td>
<td>22.32</td>
<td>6.20</td>
<td>9.12</td>
<td>11.64</td>
<td>1.19</td>
<td>2.96</td>
<td>2.16</td>
<td>4.83</td>
<td>0.97</td>
<td>3.59</td>
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</table>

Note. = * = p < .05; ** = p < .01.
Table 9.3 Correlations, Mean and Standard Deviations for Girls

<table>
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<tr>
<th>Correlations</th>
<th>1</th>
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<th>13</th>
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<tbody>
<tr>
<td>1. Body Esteem</td>
<td>-</td>
<td>-.24**</td>
<td>-0.07</td>
<td>0.42**</td>
<td>-0.36**</td>
<td>-0.17</td>
<td>-0.26**</td>
<td>-0.13</td>
<td>-0.21*</td>
<td>-0.02</td>
<td>-0.45**</td>
<td>-0.23*</td>
<td></td>
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<tr>
<td>2. Weight Change</td>
<td>-</td>
<td>0.33**</td>
<td>0.07</td>
<td>0.23*</td>
<td>0.09</td>
<td>0.30**</td>
<td>0.35**</td>
<td>0.21*</td>
<td>0.36**</td>
<td>0.22*</td>
<td>0.35**</td>
<td>0.23*</td>
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<td>3. Muscle Change</td>
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<td>0.16</td>
<td>0.22*</td>
<td>-0.02</td>
<td>0.49**</td>
<td>0.05</td>
<td>0.30**</td>
<td>0.34**</td>
<td>0.18</td>
<td>0.40**</td>
<td>0.24*</td>
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<tr>
<td>4. Perceived Sports Competence</td>
<td>-</td>
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<td>0.03</td>
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<td>-0.24**</td>
<td>0.16</td>
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<td>-0.02</td>
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<td>5. Internalisation</td>
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<td>0.35**</td>
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<td>0.34**</td>
<td>0.34**</td>
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<td>0.49**</td>
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<td>6. Gender Ideals</td>
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<td>0.32**</td>
<td>0.19*</td>
<td>0.31**</td>
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<td>0.25**</td>
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<td>7. Social Comparisons</td>
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<td>0.40**</td>
<td>0.46**</td>
<td>0.19*</td>
<td>0.39**</td>
<td>0.21*</td>
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<tr>
<td>8. Peer Pressure</td>
<td>-</td>
<td>0.13</td>
<td>0.35**</td>
<td>0.20*</td>
<td>0.45**</td>
<td>0.06</td>
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<td></td>
</tr>
<tr>
<td>9. Peer Modelling</td>
<td>-</td>
<td>0.210*</td>
<td>0.14</td>
<td>0.29**</td>
<td>0.19*</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>10. Sport Pressure</td>
<td>-</td>
<td>0.35**</td>
<td>0.47**</td>
<td>0.25**</td>
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<tr>
<td>11. Sport Modelling</td>
<td>-</td>
<td>0.08</td>
<td>0.48**</td>
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<tr>
<td>12. Actor Pressure</td>
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<td>0.35**</td>
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<td></td>
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</tr>
<tr>
<td>13. Actor Modelling</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Mean                      | 31.52| 3.82| 2.94| 20.50| 4.04| 6.19| 11.07| 0.82| 2.98| 1.89| 4.60| 1.15| 3.61|
Standard deviation         | 10.34| 2.15| 2.28| 6.31| 3.16| 3.87| 7.07| 1.22| 2.00| 1.87| 1.87| 1.70| 1.93|

Note. = * = p < .05; ** = p < .01.


**Differences Between Boys and Girls**

A one-way multivariate analysis of variance was conducted to examine the differences between boys’ and girls’ scores on the variables which were directly comparable (those variables which had common items between girls and boys). The dependent variables were Body Esteem; Perceived Sports Competence, Peer Modelling, Sports Media Pressure, Sports Media Modelling, Actor Media Pressure and Actor Media Modelling. The other variables examined in Study 2 were not directly comparable as they were composed of different items for girls and boys. Analysis of Box’s M test was found to be non-significant, indicating that the assumption of equality of variances were met ($F(28, 179527) = 1.70, p > .001$). The univariiate tests for homogeneity of variance for each of the dependent measures indicated that homogeneity of variance had been violated for Sports Media Pressure. Therefore, findings were to be interpreted at a more conservative alpha level. The multivariate test of significance examined whether there were significant gender differences on a linear combination of all of the dependent variables, and a significant difference was not observed, ($F(7, 221) = 1.50, p > .05$), therefore, no univariate differences were examined.

**Sociocultural Model for Boys**

For boys, Body Esteem was found to be best represented as a one dimensional construct, as was the case for Body Change Behaviours. Therefore, the proposed extended version of the Tripartite Model for boys was modified to reflect one overall variable for Body Esteem and an overall variable for Body Change Strategies. Examination of the bivariate correlations between variables for the boys, indicated that additional to pressure and modelling from peers and sports media,
pressure from actor media was also a significant correlate of Body Esteem, Body Change, Internalisation, Gender Ideals and Social Comparisons. Therefore the variable of Actor Media Pressure was also included in the modified model for boys. Figure 3 presents the modifications to the hypothesised extended Tripartite Model for boys.

Figure 5. Modified Hypothesised Extended Tripartite Model for Boys

Path analysis was conducted with SPSS AMOS 21 software. For this study the chi-square ($\chi^2$) likelihood ratio, corresponding $df$, CFI, TLI and RMSEA values are reported. A $\chi^2$ value which is non-significant ($p > .05$) indicates a close fit. Additionally, the Comparative Fit Index (CFI) and the Tucker- Lewis Index (TLI) are incremental fit measures, which represent comparisons between the proposed model and an independent model. It is suggested that value of .95 or above for the CFI or TLI is a good fit of the data. For the Root Mean Square of Estimation (RMSEA), values < 0.05 and corresponding narrow confidence intervals also indicate a good fit. However, values ranging from 0.05 to 0.08 are deemed acceptable (MacCallum, Browne, & Sugawara, 1996).
Initial testing of the model revealed a poor fit, $\chi^2 (24) = 67.31, p < .001$; CFI = .84; TLI = .64; RMSEA = .13. The model was re-specified in order to examine the fit of the model for boys. This process was informed by theoretical reasoning and empirical information. Overall, the modification indices revealed the need to freely estimate two additional parameters to improve the overall fit of the model. Chi-square difference tests ($\Delta \chi^2$) were calculated after each parameter change in the model in order to evaluate the improvement in the model fit at a significance level of $p < .05$, with each parameter change equivalent to one degree of freedom (critical $\chi^2 = 3.84$).

Specifically, examination of modification indices indicated the need to freely estimate a pathway between Internalisation and Body Esteem (MI = 17.03). As this pathway was theoretically plausible, it was included in the model. This resulted in a significant improvement to the model, $\Delta \chi^2 (1) = 23.92, p < .001$, and improved model fit, $\chi^2 (23) = 43.39, p < .001$; CFI = 0.93; TLI = .82; RMSEA = .09.

Modification Indices were once again inspected which indicated the need to freely estimate an additional pathway between Gender Ideals and Body Change Strategies. As this was also theoretically supported, this was added to the model. This resulted in a significant improvement to the model, $\Delta \chi^2 (1) = 9.53, p < .05$, and improved model fit, $\chi^2 (22) = 33.86, p < .05$; CFI = 0.96; TLI = .89; RMSEA = .07.

A summary of the chi-square difference tests associated with the model modifications is provided in Table 9.4. The final sociocultural model for boys, including standardised path coefficients are illustrated in Figure 4.
Table 9.4 Re-specification of Extended Tripartite Model for Boys

<table>
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<tr>
<th>Pathways</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\Delta\chi^2$</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
</tr>
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<td>Initial model</td>
<td>67.31</td>
<td>24</td>
<td>-</td>
<td>.87</td>
<td>.64</td>
<td>.13</td>
</tr>
<tr>
<td><strong>Estimated pathways</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intern. $\rightarrow$ Body Esteem</td>
<td>43.39**</td>
<td>23</td>
<td>23.92**</td>
<td>.93</td>
<td>.82</td>
<td>.09</td>
</tr>
<tr>
<td>Gender Ideals $\rightarrow$ Body Change</td>
<td>33.86**</td>
<td>22</td>
<td>9.53*</td>
<td>.96</td>
<td>.89</td>
<td>.07</td>
</tr>
</tbody>
</table>

*Note.* $\Delta\chi^2$ = Chi-square difference test statistic; Dash indicates $\Delta\chi^2$ cannot be calculated; * $= p < .05$; ** $= p < .01$.

As shown in Figure 4, the sociocultural variables (Peer Pressure, Peer Modelling, Sports Pressure, Sports Modelling and Actor Pressure) accounted for 28% of the explained variance in boys’ Internalisation. Significant positive pathways were found between Internalisation and Peer Modelling, and also between Internalisation and Sports Media Pressure.

The sociocultural variables (Peer Pressure, Peer Modelling, Sports Pressure, Sports Modelling and Actor Pressure) accounted for 13% of the explained variance in the Masculine Gender Ideals and none of the pathways leading to this variable were significant. Only 7% of the variance within Perceived Sports Competence was explained by Internalisation and Masculine Gender Ideals, and neither of these paths were significant. However, the pathway between Masculine Gender Ideals and Internalisation approached significance.
Figure 6. Final Extended Tripartite Model for Boys with Standardised Path Coefficients

Note: * $p < .05$; ** $p < .01$; *** $p < .001$. 
Overall, Internalisation and Masculine Gender Ideals accounted for 16% of the explained variance in boys’ use of Social Comparisons and the pathway between Internalisation and Social Comparison was significant. Internalisation, Social Comparison and Perceived Sports Competence accounted for 46% of the variance in boys’ Body Esteem. Perceived Sports Competence positively predicted boys’ Body Esteem demonstrating a large effect, whereas Internalisation negatively predicted boys’ Body Esteem. Social comparison, Perceived Sports Competence, and Masculine Gender Ideals accounted for 34% of the variance in boys’ Body Change strategies. The pathway between Social Comparisons and Body Change Strategies was significant, and the pathway between Masculine Gender Ideals and Body Change Strategies was also significant.

**Sociocultural Model for Girls**

For the girls, the exploratory factor analysis also indicated that the Body Esteem scale was best represented as a one dimensional construct. Therefore the proposed sociocultural model was modified to reflect one overall variable for Body Esteem. Examination of the bivariate correlations between variables for the girls indicated that additional to pressure and modelling from peers and actor media, pressure from sports media was also significantly correlated with Body Esteem, Body Change, Internalisation, Gender Ideals and Social Comparisons. Therefore the variable of Sport Media Pressure was also included in the modified extended Tripartite Model for girls. Figure 5 presents the modifications to the hypothesised sociocultural model for girls.
Path analysis was conducted with SPSS AMOS 21 software. The same goodness-of-fit indicators used for evaluation of the boys’ model, were also used for the girls’ model. These included the $\chi^2$ likelihood ratio, corresponding $df$, CFI, TLI and RMSEA.

Initial testing of the model revealed a poor fit, $\chi^2 (27) = 96.58, p < .001$; CFI = .76; TLI = .50; RMSEA = .15. The model was re-specified in order to examine the overall fit of the model. This process was informed by theoretical reasoning and empirical information. Overall, the modification indices revealed the need to freely estimate four additional parameters to improve the overall fit of the model. Chi-square difference tests ($\Delta\chi^2$) were calculated after each parameter change in the model in order to evaluate the improvement in the model fit at a significance level of $p < .05$, with each parameter change equivalent to one degree of freedom (critical $\chi^2 = 3.84$).

Specifically, examination of modification indices indicated the need to freely estimate a pathway between Sport Media Pressure and Social Comparisons. As this
was theoretically plausible, this was also added to the model. This resulted in a significant improvement to the model, $\Delta \chi^2 (1) = 18.48, p < .05$, and improved model fit, $\chi^2 (26) = 78.10, p < .001; \text{CFI} = 0.82; \text{TLI} = .61; \text{RMSEA} = .13$. Modification Indices were once again inspected which indicated the need to freely estimate an additional pathway between Peer Modelling and Social Comparisons. This was also theoretically plausible and was therefore also added to the model. This resulted in a significant improvement to the model, $\Delta \chi^2 (1) = 10.78, p < .05$, and improved model fit, $\chi^2 (25) = 67.32, p < .001; \text{CFI} = 0.85; \text{TLI} = .67; \text{RMSEA} = .12$.

Modification Indices were once again inspected which indicated the need to freely estimate an additional pathway between Peer Pressure and Weight Change. This relationship was deemed to be theoretically plausible and was therefore also added to the model. This resulted in a significant improvement to the model, $\Delta \chi^2 (1) = 10.00, p < .05$, and improved model fit, $\chi^2 (24) = 57.32, p < .001; \text{CFI} = 0.88; \text{TLI} = .73; \text{RMSEA} = .11$. Finally, the Modification Indices were inspected and indicated the need to freely estimate an additional pathway between Actor Pressure and Body Esteem. This was considered to be theoretically plausible and was therefore the final addition to the model. This resulted in a significant improvement to the model, $\Delta \chi^2 (1) = 21.75, p < .05$, and improved model fit, $\chi^2 (23) = 35.57, p < .001; \text{CFI} = 0.96; \text{TLI} = .89; \text{RMSEA} = .07$. A summary of the chi-square difference tests associated with the model modifications is provided in Table 9.5.

The sociocultural variables (Peer Pressure, Peer Modelling, Sport Pressure, Actor Modelling and Actor Pressure), explained 30% of the total variance of Internalisation. Specifically, the pathway between Peer Modelling and Internalisation was significant and the pathway between Actor Pressure and Internalisation was also significant. Peer Pressure, Peer Modelling, Sport Pressure, Actor Modelling and
Actor Pressure explained 17% of the total variance of Feminine Gender Ideals. Peer Pressure and Sports Pressure were both significant contributors to girls’ scores on Feminine Gender Ideals. Internalisation, Peer Modelling, Sports Pressure and Feminine Gender Ideals explained 32% of the variance within Social Comparisons. However, only Peer Modelling and Sports Pressure were significant contributors to girls’ Social Comparisons.

Peer Pressure and Social Comparisons explained 17% of the total variance explained within girls’ Weight Change scores and both of these pathways were significant. In regard to girls’ Body Esteem scores, Social Comparisons and perceived pressure from actresses and singers accounted for 23% of the total variance explained, and pressure from actors was a significant contributor to girls’ Body Esteem scores. Finally, Social comparisons explained 17% of the total variance in girls’ Muscle Change scores, and this pathway was significant.

Table 9.5 Re-specification of Extended Tripartite Model for Girls

<table>
<thead>
<tr>
<th>Pathways</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>$\Delta\chi^2$</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial model</td>
<td>96.58</td>
<td>27</td>
<td>-</td>
<td>0.76</td>
<td>0.50</td>
<td>0.15</td>
</tr>
</tbody>
</table>

**Estimated pathways**

<table>
<thead>
<tr>
<th>Pathways</th>
<th>$\chi^2$</th>
<th>Df</th>
<th>$\Delta\chi^2$</th>
<th>CFI</th>
<th>TLI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sport Pressure $\rightarrow$ Social Comp.</td>
<td>78.10</td>
<td>26</td>
<td>18.48**</td>
<td>0.82</td>
<td>0.61</td>
<td>0.13</td>
</tr>
<tr>
<td>Peer Modelling $\rightarrow$ Social Comp.</td>
<td>67.32</td>
<td>25</td>
<td>10.78*</td>
<td>0.85</td>
<td>0.67</td>
<td>0.12</td>
</tr>
<tr>
<td>Peer Pressure $\rightarrow$ Weight Change</td>
<td>57.32</td>
<td>24</td>
<td>10.00*</td>
<td>0.88</td>
<td>0.73</td>
<td>0.11</td>
</tr>
<tr>
<td>Actor Pressure $\rightarrow$ Body Esteem</td>
<td>35.57</td>
<td>23</td>
<td>21.75**</td>
<td>0.96</td>
<td>0.89</td>
<td>0.07</td>
</tr>
</tbody>
</table>

*Note.* $\Delta\chi^2$ = Chi-square difference test statistic; Dash indicates $\Delta\chi^2$ cannot be calculated; * = $p < .05$; ** = $p < .01$. 

Figure 8. Final Extended Tripartite Model for Girls with Standardised Path Coefficients

Note. * p < .05; **p < .01; ***p < .001
CHAPTER 10

Study 2: Discussion

In this chapter, the results from Study 2 are discussed in relation to the major aims of the research. Firstly, factor structures identified for the instruments used in Study 2 are compared with original conceptualisations of the scales studied in previous research. Second, findings for the extended Tripartite Models for boys and girls will be examined and compared to previous research. Recommendations for future research based on the findings in Study 2 will be discussed. Further recommendations for future research will be addressed in the final chapter (Chapter 11).

Evaluation of Instruments used in Study 2

Study 2 was designed to examine the underlying factor structures for both the existing and the adapted measures of body image and sociocultural factors, separately for preadolescent boys and girls. An aim of this study was to adapt pre-existing measurement scales, based on findings from Study 1, in order for them to be more representative and relevant to preadolescent boys’ and girls’ experiences of sociocultural factors relating to their body image. A trend across the findings in Study 2 was that weight and muscle items were not clearly separable components relating to the body. Muscle and weight items were found to be best represented as single factors across, Body Esteem, Body Change Strategies (for boys), Social Comparisons, Internalisation, and Peer and Media Influences. This finding will be discussed in more depth throughout the chapter.

Body Esteem and Body Change Strategies. The BES is a well validated measure of body image which has been used in several previous studies with children under the age of 12 (e.g., Hahn-Smith & Smith, 2001; Shriver et al., 2013).
Mendelson et al. (1996) found two reliable subscales within the BES; Weight Esteem and Appearance Esteem. Research has since used these subscales accordingly (e.g., Shriver et al., 2012). The current study utilised a version of the BES which has been extended to include Muscle Esteem items (Sproal, 2010). However, results of the exploratory factor analysis did not show that the weight, muscle and appearance domains of Body Esteem were distinct subscales for boys or girls in the current study.

The findings suggest that a single factor best represented children’s scores on the BES. This is in contrast to expectations and previous research which has demonstrated a reliable two-factor structure for appearance and weight esteem for children aged eight to 12 (Mendelson et al., 1996). However, the underlying factor structure of the BES has not been examined among children since Mendelson and colleagues (1996) conducted their analysis, 17 years ago. A possible reason for this finding is that a single factor encompassing weight, appearance and muscle may reflect the changing nature of children’s body ideals. Study 1 showed that weight, appearance and muscularity were all aspects which children considered to be important in relation to their bodies. For example, children used the word fit to describe a body which encompassed all three of these domains, and this was particularly evident among preadolescent boys.

Studies have consistently demonstrated that muscles and weight are both key areas of focus among preadolescents (e.g., McCabe et al. 2005). However, few studies have examined the ways in which children conceptualise their bodies. The current findings indicate that preadolescent boys and girls may not conceptualise their bodies as suggested in previous research. It is not possible to interpret the current findings in relation to previous research, as there are few measures of
children’s body image which have been subjected to rigorous validity testing including validation of underlying factor structures. Furthermore, the majority of instruments which assess children’s body image do not include muscularity items, and therefore provide no indication of how children conceptualise their bodies beyond the dimensions of weight and general appearance. For example, one instrument which is often used among children is the Body Dissatisfaction subscale of the Eating Disorders Inventory (e.g., Gardner et al. 1997; Wood et al. 1996). This instrument assesses beliefs that body parts are too large or associated with fatness. This measure has been modified to include items relating to muscularity, however, this has not been validated among preadolescents. On the other hand, the Appearance and Weight subscales of the PSDQ (Marsh et al. 2007) have been shown to be separate factors among children aged eight to 11. However, this measure does not include muscularity items.

Methodological concerns within children’s body image measurement have also been noted by researchers. It has been suggested that the field of body image research among children is limited by the variations in types and validity of measures used (Tremblay & Limbos, 2009). Additionally it has been noted that instruments which assess body esteem among children, cover broadly define constructs and do not allow researchers to specify the body esteem problem (Smolak, 2004). Future studies are clearly needed to better understand the ways in which children conceptualise their body, including the continued development and rigorous validation of instruments which measure these constructs.

This was the first study to examine the underlying factor structure of the Body Change Inventory among preadolescent girls and boys. As expected, a clear two-factor structure was found for girls’ scores on the Body Change Inventory. One
factor included the four Weight Change items, and the other factor consisted of the four Muscle Change items. The two-factor structure found for preadolescent girls in the current study is consistent with the underlying factor structure which has been demonstrated among adolescent girls and boys in previous research (Ricciardelli & McCabe, 2002). On the other hand, the Weight Change and Muscle Change subscales of the Body Change Inventory were found to be better represented as a single factor for the preadolescent boys in the current study.

This finding may be understood in terms of body ideals held by preadolescent boys. Findings from Study 1 demonstrated that boys often chose the term ‘fit,’ as it described an ideal body which encompassed their dislike of fatness and their preference for muscularity. This finding reflects preadolescent boys’ desire for ‘lean muscularity’ which has also been identified among adolescent boys (Leon et al., 1999). These body ideals may result in boys’ use of both weight change and muscle change behaviours which are equally oriented towards becoming lean, and toned, and therefore do not distinguish between weight change and muscle change.

This trend has also been observed among men. Ridgeway and Tylka, (2005) conducted in-depth interviews with 30 college-men to determine their perception of the ideal body composition. The researchers found that muscularity and leanness were not discussed as distinct components, but rather as combined factors which influenced their satisfaction with specific body parts (such as arms and abdomen). Similarly, McFarland and Petrie (2012) examined the psychometric properties of the Body Parts Satisfaction Scale for Men (BPSS-M) among college aged men. They found three factors relating to Upper Body, Legs and Face and each factor included both leanness and muscularity items. The researchers argued that men may perceive
their bodies, not in terms of how fat or muscular they are, but rather in terms of the overall evaluation of the body part encompassing muscularity and leanness.

On the other hand, girls’ scores on the Body Change Inventory were clearly best represented as two factors, suggesting that girls’ used muscle change and weight change strategies differentially in the current study. This finding is interesting as girls’ scores on the BES did not suggest that muscularity was distinct from appearance and weight. One possible explanation for this finding is that preadolescent girls may have some concern in relation to their muscles, as identified by the BES, however, this may not translate to muscle change behaviours, to the same extent that weight esteem relates to weight change behaviours. This may relate to recent research which demonstrates a trend towards a more athletic, fit ideal body for males and females (Abbott & Barber, 2010; Homan et al. 2012), however, muscularity remains a more prominent feature of the male ideal body (Abbott & Barber, 2010).

**Internalisation.** The Internalisation Scale for girls was developed using items from the SATAQ (Smolak et al. 2001) and as expected, this scale was found to be best represented by a single factor encompassing girls’ internalisation of the thin/attractive ideal. The factor structure of this measure had not been previously examined among preadolescents. However, previous studies have demonstrated excellent reliability among preadolescent girls (Blowers et al., 2003; Murnen et al. 2003).

The Internalisation scale for boys was adapted to reflect the fit/muscular body ideal. Fitness-related items and muscle-related items on the adapted scale were found to comprise a single factor representing a body ideal which encompasses fitness and muscularity. Study 1 highlighted boys’ emphasis on the importance of fitness in
relation to physical appearance and muscularity. Study 1 also demonstrated the ways in which particular media targets (e.g., sportsmen) helped to perpetuate this ideal for preadolescent boys. With the inclusion of items relating to these factors, the adapted Internalisation scale did tap into boys’ focus on fitness. For example, three quarters of the boys in the current study demonstrated agreement with the item ‘Photographs of fitter men make me wish I was more fit’, and 61% showed at least some agreement with the statement ‘I wish I had a fitter body like my favourite sportsman’. Similar proportions of boys at least somewhat agreed with muscularity items. For example, 68% of boys at least somewhat agreed with the statement ‘Photographs of muscular men make me wish I was more muscular’.

Boys’ response rates to internalisation items, as describe in the results, indicate that with more relevant items, boys demonstrate internalisation to the same extent, if not, to a greater extent than girls do. This is an important finding in relation to the aims of the study. This finding has demonstrated that by using a measurement tool which is specifically designed to capture boys’ focus on the fit/muscular ideal, boys appear to be just as vulnerable to sociocultural messages as girls are. This is also a key finding in relation to previous research. Within the research there has been a disconnect between studies showing significant proportions of preadolescent boys who experience body concerns (e.g., Dunn et al., 2010) and other studies which suggest that that preadolescent boys do not internalise societal messages regarding body ideals to the same extent that girls do (e.g., Allen et al., 2008). Building on the results of Study 2, future research needs to further examine the ways in sociocultural factors contribute to boys’ internalisation of the fit/muscular ideal, including the role of sociocultural factors which were not considered in this thesis, such as parents. The role of parents will be discussed in more detail in the final chapter (Chapter 11).
Although the girls’ and boys’ internalisation scales are not directly comparable, it is worth noting that the rate of girls’ agreement with internalisation items were not as high as was found for boys. For example, only 30% of girls agreed with the statement ‘I wish I looked like a model’, and only 40% agreed with the item ‘Photographs of thin women make me wish I was thin’. On average 45% of girls at least somewhat agreed with the items on the girls’ internalisation scale, compared with 64% of boys who at least somewhat agreed with the items on the boys’ internalisation scale. This may relate to the content of the items on the girls’ Internalisation Scale. All items on the girls’ Internalisation Scale are focused on the thin ideal, with two questions concerning women magazines and two questions concerning models. However, findings from the current study and Study 1 indicate that girls are also focused on a fit looking body and have some desire for muscularity. These findings suggest that the perceived ideal body among preadolescent girls may be becoming more complex as it includes a greater concern for a fit and toned body, rather than simply a thin one. Further research is required to examine the extent to which the fit and toned ideal has been incorporated into preadolescent girls’ body ideals. If this is supported in further research, assessment of girls’ internalisation of body ideals will need to include items relating to fitness and muscle tone.

**Perceived Sports Competence.** The (PSCS) was shortened for the purpose of this study and included items from Endurance, Physical Activity, Sport Competence and Strength subscales from the Physical Self-Description Questionnaire (Marsh et al. 1994). The factor analysis demonstrated that for both boys and girls in the current study the PSCS was best represented as a single factor. This finding contrasts with previous research which has demonstrated that each of the subscales are distinct factors (Marsh, Martin, & Jackson, 2010). However,
previous studies which have examined the factorial validity of this measure have only done so among adults or adolescents. While the Physical Self-Description Questionnaire has been used with preadolescents and adequate internal consistency has been found (Marsh et al. 2007), no previous study has examined the underlying factor structure for this age group.

In the current study, no significant difference was observed between boys’ and girls’ Perceived Sports Competence scores. While it is generally accepted that, boys’ have a stronger Perceived Sports Competence than girls (Crocker, Eklund, & Kowalski, 2000), this distinction may be more prominent among adolescents than children. Research demonstrates that it is between late childhood and early adolescence when girls demonstrate a decline in physical activity and also in their perceived sports competence (Cairney et al., 2012). Therefore, girls between the ages of eight to ten may still be in the developmental phase where their perceived sports competence is comparable to boys. Further research is needed to examine the role of perceived sports competence longitudinally as girls’ transition from preadolescence to adolescence. Research needs to examine whether a decline in perceived sports competence contributes to a decline in body esteem during this period of development.

Masculine and Feminine Gender Ideals. The Masculine Gender Ideals Scale was used with preadolescent boys for the first time in this study, and it was found that this scale was best represented as a single factor which demonstrated excellent internal consistency. This scale has been used among adolescent boys as a single factor and has also demonstrated excellent internal consistency (Smolak & Stein, 2006, 2010). On average, the boys in the current study demonstrated a very high rate of endorsement of masculine gender ideals. In fact, 76% of the boys in the
current study at least somewhat agreed with the gendered statements regarding masculine gender ideals. The Feminine Gender Ideal Scale was developed for the purpose of the current study. It was found to also be best represented as a single factor, assessing the girls’ rate of endorsement for gendered statements in regard to feminine ideals. On average, 62% of the girls at least somewhat agreed with the gendered statements regarding feminine gendered ideals, demonstrating a slightly lower rate of endorsement, compared to boys’ responses on the masculine version.

Children’s endorsement of gender ideals indicates that gender ideals may be a particularly important factor during preadolescence. Development research demonstrates that gender ideals in childhood are more concrete and ridged than in adolescence when they become more flexible and tolerant of deviation from gender norms (Martin et al. 2002; McAnnich et al. 1996). Given this developmental trend, gender ideals may be a particularly important construct to examine among children, as rigid gender ideals may be a source of peer pressure as well as personal expectations among children. Therefore, future research is required to further examine the ways in which children may feel pressure to display gender congruent characteristics and how this may play a crucial role in relation to their body image.

**Social Comparisons.** Social comparisons were examined in Study 2 using a modified version of the Social Comparisons Practices Scale by Holt and Ricciardelli (2002). Modifications to this scale were designed to simplify the questions to make them more easily understood by children and also to represent targets and domains of social comparison that were relevant to children’s body image. Targets of social comparison included sports media, actors/singer media and peers. Domains of social comparison included weight, muscle and fitness.
Overall, 58% of boys and 58% of girls indicated that they at least sometimes compared themselves to their peers in relation to their weight, fitness or muscles. This rate of comparison is higher than that demonstrated in previous studies with same-age children. Holt and Ricciardelli (2002) found that 30% of boys and girls engaged in social comparisons in regard to aspects of their body including their weight and muscles. However, the researchers found that boys were more likely to compare themselves with adults, while girls were more likely to compare themselves with peers. In the current study, boys and girls made more comparisons with their peers than media targets. Among boys, 52% indicated that they at least sometimes compared themselves to sportsmen, and 42% indicated that they at least sometimes compared themselves to actors or singers. On the other hand, only 36% of girls indicated they at least sometimes compared themselves to sportswomen, and 44% of girls indicated they at least sometimes compared themselves to actors or singers.

This observation is consistent with the theme found in Study 1, which indicated that peers were a more important target for social comparison than media celebrities. Jones (2001) also found that among 7th and 8th grade students, peers were a more frequent target for comparison than media models/celebrities. Additionally, the current findings demonstrate a notable difference between girls’ and boys’ frequency of social comparison with sportsmen. This finding is also in line with a theme identified in Study 1 which demonstrated that sports celebrities in the media were a particularly salient target for comparison among boys, but not girls. Previous research in this area is very limited. Few studies have examined children’s social comparison tendencies in regard to their body image, and of these, none have evaluated children’s understanding of the concept of social comparison.
Low frequencies of response for social comparison items among girls and boys in this study also indicate that children are not very familiar with the concept of comparing aspects of themselves to others. For example, on average, 49% of boys and 54% of girls indicated that they never compared themselves with their peers, or media targets. Findings from Study 1 highlighted the difficulties inherent in asking children to directly comment on their social comparison tendencies. Children often underestimated their social comparison use. Study 1 also demonstrated that several children did not fully understand the concept and benefited from more careful and detailed explanations of the concept. Although Study 2 used simplified questions to assess children’s social comparison use, the task requirements may still have been too abstract for children aged between eight and 10 years. These findings require further research using alternative methods which are more sensitive to children’s understanding and awareness of their social comparison use. A more effective method to examine children’s social comparisons may be via naturalistic observation. This method has been used successfully in development research (Chafel, 1986a) and is discussed in more detail in the final chapter (Chapter 11).

Results from Study 2 suggest that for girls and boys, the social comparison items were best represented as a single factor, rather than subscales defined by the target of the comparison or the domain of the comparison. This finding suggests that if children use social comparisons they are likely to do so indiscriminately in regards to a range of targets and on a range of domains. Research suggests that throughout childhood to early adolescence, children are developing and refining their ability to engage in social comparisons (Stipeck & McIver, 1989). Only in late childhood do children become able to differentiate between comparison targets, and identify targets that provide more comparable information to themselves, such as peers (Obrien et al., 2009). Therefore, children may not discriminate between their targets
of comparison until later in preadolescence. The notion of comparing oneself is a difficult concept for children to understand. Furthermore, even if children grasp the concept of comparing oneself, commenting on the frequency of this practice in regard to various targets and domains is particularly challenging.

Peer and Media Influences. Findings from Study 2 indicated that two clear factors represented the items on the peer and media influence scales for girls and boys. These two factors corresponded to pressure items and modelling items. These scales were adapted for the purpose of this study, and therefore are not directly comparable to previous research. However, McCabe and Ricciardelli (2001) found that for 444 adolescent boys and girls, the underlying factor structure was distinguished by the nature of the message (decrease weight, increase weight and increase muscle tone). In contrast, the current study found that peer and media items were distinguished by the type of influence (pressure or modelling). However, it is important to note, that in the current study only one item within each pressure and modelling scale corresponded to weight, muscle and fitness related messages. Therefore, it was not possible to further separate these subscales into more specific domains of pressure or modelling (e.g., pressure to lose weight from peers), as this would have reduced scales to single factors. Future research can address this by including additional items within each subscale so that the relative importance of messages relating to weight, muscle and fitness may be assessed individually.

Similar frequencies of perceived peer pressure were observed between the girls and boys. For example, 26% of boys and 22% of girls felt pressure from their peers to change their body shape. Whereas a higher frequency of boys and girls felt pressure from sports celebrities, 44% of boys and 44% of girls indicated that they felt pressure from sports celebrities to change their body shape. On the other hand, only
25% of boys and 27% of girls felt pressure from actors and singers. Interestingly, for both boys and girls, sports media was the greatest source of pressure in relation to their weight, muscle and fitness. For boys, this finding is consistent with Study 1 which indicated that boys were more focused on sports celebrities than any other type of celebrity. Additionally, given that it was found that boys tend to compare themselves with sports celebrities; it is unsurprising that this type of media is the greatest source of body image-related pressure.

In recent times, there has been an increased visibility of sportsmen in the media in ways which promote these men as role models for young people (Lines, 2001). For instance, Spaaij and Anderson (2010) found that for children, the prominence of Australian Rules football players in the media was influential on children’s preferences for particular sports. Developmental studies and the findings from Studies 1 and 2, highlight children’s focus on sports media. However, further research is needed to identify the specific messages which are conveyed to children by this source. This will allow for a better understanding of the ways sports media contribute to children’s body ideals and body image development.

**Sociocultural Models**

Given the wide expansion of research examining sociocultural factors relating to children’s body esteem, the ways in which sociocultural factors influence body image remains unclear, particularly for preadolescent boys. Study 2 was designed to extend and test sociocultural models of influence to explain children’s body esteem and body change strategies. The Tripartite Influence Model was extended to include additional constructs which were found to be important for preadolescents in Study 1. Different models were proposed for preadolescent girls and boys based on major gender differences observed in Study 1.
An expanded version of the Tripartite Model was proposed for preadolescent boys in which, Perceived Sports Competence and Masculine Gender Ideals were included as additional mediators between Internalisation and Gender Ideals and Body Esteem and Body Change Strategies. These additional variables were included in the model based on findings from Study 1. Masculine gender ideals were an important theme throughout Study 1 whereby gender ideals closely interplayed with body ideals, and messages received from peers and sportsmen in the media also reinforced masculine gender ideals. Study 1 also demonstrated that boys’ Perceived Sports Competence was important in relation to their body image, and was also closely linked to internalisation and the endorsement of masculine gender ideals.

Within the boys’ model, the variable with the greatest contribution to boys’ Internalisation of the fit/muscular ideal was perceived pressure from sports media. Boys who perceived greater pressure from sports media to lose weight, gain muscle and become fitter, also demonstrated greater internalised the fit/muscular ideal. This finding reflects a major theme observed in Study 1 which showed sports celebrities as being an important form of media in relation to boys’ body ideals. Influence from sports media and has not been examined in relation to preadolescent boys’ body image. However, previous studies have shown that sportsmen and athletes are prominent role models for young boys (e.g., Biskup & Pfister, 1999; Bricheno & Thornton, 2007). Role models are influential as they provide a guide as to how boys should behave or what they should look like (Biskup & Pfister, 1999). Research has also demonstrated that boys’ favourite celebrities are often sportsmen or have ‘sporting’ qualities, and they symbolise superiority, determination, strength and overall masculinity (Biskup & Pfister, 1999).
The finding that pressure from sports celebrities is related to boys’ internalisation is an important advancement in understanding how sports celebrities may influence young boys’ body image. This finding highlights a specific type of media influence which may be particularly relevant to boys’ body image development. This also provides a clearer view of the types of sociocultural messages young boys are receiving about their bodies (e.g., importance of athleticism, leanness and muscularity), thus identifying specific messages to address within prevention programs for boys. For example, boys’ prevention programs will need to incorporate media literacy, particularly focusing sports celebrities in the media. This is discussed in more detail in the final chapter (Chapter 11).

Within the extended Tripartite Model for the boys, the pathway between Peer Modelling and Internalisation was significant. Boys’ perceptions of their peers’ body change behaviours predicted boys’ own internalisation of the fit/muscular ideal. In contrast, pressure from peers did not significantly contribute to internalisation. This finding is consistent with findings in Study 1 which demonstrated that boys generally did not discuss their appearance or physical features among their peers. Similarly, the majority of boys in the current study also denied receiving any direct messages from their peers. This contrasts with previous studies which have found that direct appearance-related comments from peers are associated with boys’ body image concerns (Lunde, Frisen, & Hwang, 2006; Paxton et al., 2006). However, for boys in the current study and Study 1, it seems that peer modelling may be a more important form of peer influence in regard to their internalisation of the fit/muscular ideal.

Peer modelling of body ideals and body change strategies are conveyed via peer interactions. Findings among adolescent boys have demonstrated the specific ways in which this can occur. Hargreaves and Tiggemann (2006) found that for boys
aged 14 to 16, peer group conformity and sporting goals had a stronger influence on boys’ appearance ideals than media messages. Jones et al., (2004) also found that for 7th to 10th grade boys, Internalisation mediated the relationship between appearance conversations with friends and body dissatisfaction. Lawler and Nixon (2011) also found support for the mediating role of internalisation in the relationship between appearance conversations with peers and body dissatisfaction among male adolescents. As these factors have not been widely researched among preadolescent boys, further research is required to examine additional forms of peer influence, such as peer group conformity and conversations in regard to preadolescent boys’ internalisation.

Within the boys’ model, Masculine Gender Ideals was found to significantly contribute to boys’ use of Body Change Strategies, however, none of the paths between the peer and media variables and Masculine Gender Ideals were significant. This finding contrasts with the qualitative data in Study 1 which indicated that preadolescent boys held firmly established views concerning masculine gender ideals and these were encouraged and supported by their peers. Masculine gender ideals were also prominent characteristics associated with boys’ favourite celebrities in Study 1. As this variable has not been widely examined among preadolescent boys in regard to body image, it is not possible to draw on past research. However, it is possible that boys’ endorsement of masculine gender ideals is influenced by a sociocultural source which was not assessed in the current study, such as parents.

Parents play a critical role in children’s development of gender ideals. One major way in which parents are influential in this regard is via modelling. Parents model their gender ideals and stereotypes through their own behaviours, attitudes and interests (Endendijk et al., 2013). Additionally, parents reinforce behaviours in their
children which are consistent with gender ideals (McHale, Crouter, & Tucker, 1999). Children internalise gender ideals at a very young age of about two and three years old (Poulin-Dubois, Serbin, Eichstedt, Sen, & Beissel, 2002) and during this time, parents are the primary socialising agents in children’s lives. Therefore, future research needs to examine the ways in which parents shape gender ideals for children and the ways in which these ideals may relate to later body image development. Specifically future research may examine parents’ endorsement of gender ideals and the ways in which this influences their views of their child’s body shape and related behaviours. This may help to identify the ways in which parents convey gendered body-related messages to their children.

Within the boys’ expanded Tripartite Influence Model, a significant pathway was found between Internalisation and Social Comparisons. No previous studies were located which have examined both internalisation and social comparisons among preadolescent boys. However, this relationship has been supported among young adolescent boys. Petrie et al. (2010) found that internalisation was significantly related to social comparisons among a sample of adolescent boys in grades six to eight in the U.S. The researchers suggested that as children internalise society’s body ideals, they begin to monitor their appearance more closely and compare themselves to others to determine their social standing in terms of appearance (Petrie et al., 2010). Rodgers, Ganchou, Franko and Chabrol (2012) examined a sociocultural model of eating disorders among adolescent boys. The researchers found that internalisation and appearance comparison mediated the relationships between pressure to increase muscle, drive for muscularity and drive for thinness. The current finding is important as it provides evidence that young boys who internalise the fit/muscular ideal are also more likely to compare their weight, muscles and fitness to peers and the media. As defined by the factor analysis, it was
not viable to examine boys’ comparisons with separate media and peer factors in the current study. Therefore, further research is now required to examine boys’ pattern of social comparison use in more detail. For example, further studies which identify whether media or peers are more common targets for comparison among boys will help in the development of prevention strategies which are more specifically designed to address these types of comparisons.

Consistent with findings from Study 1, Perceived Sports Competence was found to significantly predict Body Esteem for boys. However, neither Internalisation nor Masculine Gender Ideals significantly predicted boys’ scores on Perceived Sports Competence. However, the path between Masculine Gender Ideals and Perceived Sports Competence approached significance. Previous qualitative research with boys ranging from five to 17 years old, has demonstrated the important relationships between sports and boys’ body ideals and gender ideals which are centred on fitness, muscularity, athleticism and strength (e.g., Birbeck & Drummond, 2006; Hargreaves & Tiggemann, 2006; Ricciardelli et al., 2006). Several previous studies have also found that boys from the age of six years old and adolescent boys emphasise the importance of fitness and functionality in regard to their body image (e.g., Abbott & Barber, 2010, Birbeck & Drummond, 2003).

Perceived Sports Competence is a relatively new variable to be examined in relation to children’s body image. This study has highlighted that it is an important construct to consider, as the pathway between Perceived Sports Competence and boys’ Body Esteem scores was significant. This indicates that boys who demonstrate more positive Perceived Sports Competence also have higher body esteem. Similarly, Morano, Colella and Capranica (2011), examined the relationships between body image, perception of physical abilities, and motor performance in boys
mean age 12.6 years). The researchers found that for boys participating in team sports, perceived physical ability was a significantly related to body dissatisfaction.

Although, Perceived Sports Competence has not been widely examined in relation to preadolescent boys’ body image, recent studies have examined actual cardiovascular fitness and sporting abilities in relation to body image among preadolescent boys. Olive et al. (2012) examined longitudinal relationships between children's body image and their physical activity and fitness levels. Testing was conducted at three time-points over a period of five years, starting with children in grade two. The researchers found that among boys and girls, lower levels of cardiovascular fitness were associated with greater body dissatisfaction. The researchers concluded that higher levels of cardiovascular fitness may act as a protective buffer to body image concerns. Findings from the current study in conjunction with other recent studies, demonstrate that both actual and perceived fitness levels and sporting abilities are an important variables in relation to children’s body image. This finding also indicates that perceived sports competence, and fitness may be protective factors for children’s body image. Conversely, it may indicate that boys who have a poorer view of their sports competence are at greater risk for body dissatisfaction as they may view their bodies to not function as ideally expected.

A concern is that children who have lower perceived sports competence may refrain from engaging in physical activity as they do not find it enjoyable. Cairney et al. (2012) examined perceived sports competence among children who were aged nine to 10 at base-line. Developmental trends were examined at five time points over two years. The researchers found that enjoyment of physical exercise decreased among girls, particularly those with low perceived athletic competence. However, among boys with low perceived competence, enjoyment remained at a consistently
low level. This is not only a physical health concern, but may also contribute to lower body esteem via lack of exercise. Therefore, the ways in which perceived sports competence develops in children, needs to be further examined in research. An important line of research will be investigating the sociocultural agents which are influential in conveying messages regarding the importance of sports competence. Research must also examine the nature of these messages which children receive, and how these messages create an intrinsic link between sports competence/fitness and body shape and weight. Additionally, further research needs to consider other factors which were not examined in this thesis, including the role of parents. The role of parents in relation to children’s perceived sports competence is discussed in the final chapter (Chapter 11).

The pathway between Internalisation of the fit/muscular ideal and Body Esteem was also found to be significant. This finding suggests that preadolescent boys’ do internalise sociocultural ideals concerning body shapes. This is a particularly important finding as previous research with preadolescent boys has demonstrated inconsistent results, including studies which have demonstrating no evidence of an association between internalisation and body image (Petrie et al., 2010; Cusumano & Thompson, 2001). In line with expectations, the adaptations to the boys’ internalisation scale have tapped into body ideals which are of greater relevance and significance to young boys. As predicted by the Tripartite Model, the relationship between internalisation and body esteem was also demonstrated for preadolescent boys in the current study. This finding demonstrates that like other populations, preadolescent boys too are susceptible to sociocultural body ideals, though these ideals are different to those of preadolescent girls.
Social Comparisons were found to be a significant predictor of boys’ body change strategies. As such, boys who engaged in more frequent use of social comparisons, also demonstrated greater use of body change strategies. This finding supports previous research with both adolescent and preadolescent boys. Smolak and Stein (2010) found that for young adolescent boys (mean age 12.9), social comparisons predicted media investment in the muscular ideal which was in turn correlated with muscle building attitudes and behaviours. Similarly, Holt and Ricciardelli (2002) also found that young boys’ use of social comparisons was the main unique correlate of problem eating, exercising, and muscle concern. However, these were comparisons with adults rather than peers. The measure of social comparisons used in Study 2 incorporated media celebrities (who are typically adults) and peers together in the one measure. Therefore, these differences could not be examined.

Studies with adolescent boys have demonstrated patterns of social comparisons which have yet to be examined among preadolescent boys. For example, Jones (2001) examined the relations among body image satisfaction and social comparisons among girls and boys in grades seven to 10. It was found that peers tended to be the more frequent targets of social comparison for both girls and boys, especially for height, weight, personality, intelligence, and popularity. Additionally, Jones (2004) found that on average, adolescent boys made fewer social comparisons than adolescent girls. Ricciardelli, McCabe and Banfield (2000) found similar results and also found that boys tended to engage in neutral or downward comparisons (Ricciardelli et al., 2000). The current study and previous research have clearly indicated that social comparisons are important in regard to boys’ body image. Future research needs to examine the patterns and individual targets of boys’ comparisons more comprehensively.
Finally, boys who were more invested in masculine gender ideals engaged in more body change strategies to become fitter, more muscular or to lose weight. Smolak and Stein (2010) also demonstrated this relationship in their longitudinal study over a seven-month period in which they found that gender role identification predicted media investment in the muscular ideal for boys in grades seven to eight. Furthermore, boys who reported greater investment in masculine physical attributes (such as being good at sports and lifting heavy things) were more likely to be invested in media ideals of muscularity and were also more likely to use muscle building techniques compared to those boys who were less invested in masculinity.

In this way, preadolescent boys in the current study, demonstrate similar trends found among adolescent boys, in regard to wanting to achieve a masculine body and using body change strategies to achieve this. A concern is that endorsement of gender ideals, internalisation of fit/muscular body ideals and use of body change strategies among preadolescent boys may be a precursor to more harmful body change strategies later in adolescence (e.g., Cafri et al., 2005; Cafri, van den Berg, & Thompson, 2006). Longitudinal studies which track the development of preadolescent boys’ body concerns in relation to their endorsement of masculine gender ideals are needed. Additionally, the current findings highlight the importance for early prevention programs which are developed specifically for preadolescent boys and focus on challenging unhelpful gender ideologies in relation to the body. The development of prevention programs is discussed in the final chapter (Chapter 11).

**Sociocultural Model for Girls**

The current study also examined an extended version of the Tripartite Model which was specifically designed for preadolescent girls. Media and peer influences
were further specified into pressure and modelling. Additionally, based on previous findings, specific targets of media influence (sports celebrities and actors/singer) were included. Based on findings from Study 1, Feminine Gender Ideals were also included as additional mediator between internalisation and gender ideals and body image. Path analysis of the girls’ sociocultural model indicated that with minor modifications, the model provided a good overall fit for the data. Several pathways within the model were significant, while some pathways were not, and each of these will be discussed.

Perceived pressure from actors and singers provided the greatest contribution to girls’ Internalisation of the thin ideal. That is, girls who perceived pressure to lose weight, gain muscle or become fitter from actresses and singers, were also more likely to have internalised the thin ideal. This relationship is in line with several previous studies which highlight the role of media figures in girls’ internalisation, including findings from Study 1. Study 1 demonstrated preadolescent girls’ focus on actresses and singers in the media, and showed that girls were aware that these women embodied the thin ideal, and that this appearance was desirable. Blowers et al. (2003) also found that among preadolescent girl, perceived pressure from the media was the only sociocultural variable which played a unique role in the extent to which girls had internalised the thin ideal. The relationship between media influence and internalisation has been well documented with girls of this age group and has been supported cross-sectionally (e.g., Anschutz et al., 2009; Sands & Wardle, 2003) and longitudinally (e.g., Clark & Tiggemann, 2008).

Additional to pressure from actors and singers, peer modelling was also a significant contributor to girls’ internalisation of the thin ideal. This finding is consistent with the findings from Study 1 which demonstrated that preadolescent girls engage in appearance-related conversations with their peers on a daily basis.
Researchers have noted that peer discussions of body change behaviours (e.g., methods of weight loss), reinforces the importance of appearance and promotes the importance of the thin appearance ideal within the peer culture (Mueller et al., 2010). Clark and Tiggemann (2008) also demonstrated this relationship in their study in which found that for girls aged nine to 12, appearance-related conversations with peers was significantly related to internalisation of the thin ideal which was, in turn, significantly related to body dissatisfaction.

Pressure from peers provided the greatest contribution to girls’ endorsement of the feminine gender ideals. That is, girls who perceived pressure to lose weight, gain muscle or become fitter from their peers, were more likely to endorse feminine gender ideals. This finding is consistent with expectations and in line with previous research. Socialisation among the peer group has been proposed to elicit adherence to gender expectations via engagement in same-sex interactions, and also social reproach for the display of non-normative gender characteristics (Lee & Troop-Gordon, 2011). Some studies show that violations of gender norms often result in peer reproach and social punishment, thus reinforcing messages about which behaviours are acceptable for boys and which are acceptable for girls (Blakemore, 2003; McAninch et al., 1996). Recently, Lee and Troop-Gordon (2011) examined the association between specific forms of peer victimisation and children's adherence to traditional gender roles. The researchers found that girls who displayed gender atypical behaviours become increasingly aware that they are doing so and in an effort to protect against future negative peer treatment, decreased their gender atypical behaviours.

Interestingly, perceived pressure from sports celebrities was the only other significant contributor to girls’ endorsement of feminine gender ideals. This finding
is surprising as it demonstrates that sports media may play a more important role in girls’ gender ideal endorsement, than previously expected. Previous research has demonstrated that athleticism, strength, agility and other body characteristics associated with sports women, are generally not defining characteristics of feminine gender ideals, and are more strongly associated with masculine body ideals (Abbott & Barber, 2010). However, recent studies have demonstrated an emerging trend towards a fit and toned body ideal for women and girls (Homan et al., 2012). As female athletes often epitomise the athletic, slim, toned body shape, the current finding could represent emerging trends in feminine body ideals.

The pathway between pressure from sports celebrities and girls’ tendency to compare their weight, fitness and muscles with others was significant. Findings from Study 1 indicated that actresses and singers in the media were a more important source of media messages and social comparison than sports women. Therefore, it was unexpected to find that pressure from sports celebrities was more important for social comparison tendency in this study. It is important to note that no previous measure of social comparison tendency has assessed preadolescent girls’ fitness comparisons. Therefore, this novel aspect assessed in the current study, may have tapped into a previously unacknowledged source of media influence among preadolescent girls. The nature of the messages that young girls may be internalising from female sports celebrities is an unexamined area of research which may have important implications for girls’ body ideals and body image development. The extent to which sports media is influential in regards to preadolescent girls’ body image is an important area for future research.

Studies with older adolescent girls and women have demonstrated inconsistent findings in regard to the risks associated with being focused on the fit
ideal. For example, Harrison (2000b) found that frequency of reading fitness magazines was related to disordered eating symptoms among women. On the other hand, Bissell (2004) found that exposure to sports media was linked to lower body dissatisfaction among women, however, this was dependant on the type of sports viewed. Lean-sports such as diving or gymnastics were associated with higher body dissatisfaction. Additionally, Homan et al. (2012) have noted that it is difficult to separate the fit ideal from the thin ideal, as media figures which are very fit are also very thin. Therefore, measuring the fit body ideal as opposed to the thin body ideal, and how it may relate to preadolescents’ body image, may be a difficult task.

Significant pathways were also observed between social comparisons and girls’ use of weight change behaviours, and social comparisons and girls’ use of muscle change behaviours. In line with these findings, Holt and Ricciardelli (2002) found that preadolescent girls’ use of social comparisons were related to problem eating attitudes, lower levels of self-esteem and higher levels of negative affect. Additionally, the role of social comparisons in models of sociocultural influence on body image for preadolescent girls has been established. For example, Blowers et al. (2003) found that for eight to 13 year old girls, social comparison was significantly associated with internalisation and acted as a partial mediator between internalisation of the thin ideal and body dissatisfaction. The researchers found that even though internalisation of the thin ideal directly correlated with body dissatisfaction, girls who internalised the thin ideal were more likely to engage in social comparison, which in turn contributed to their dissatisfaction. These findings demonstrate the important role that social comparisons play in relation to girls’ body image and body change strategies. Prevention programs are needed which specifically target girls’ social comparison use before girls enter early adolescence. This is important young
adolescent girls are particularly vulnerable towards a greater frequency of social comparison use, and higher rate of body dissatisfaction (Myers & Crowther, 2009).

Pressure from actors was also a significant contributor to girls’ Body Esteem scores. Direct pathways between Peer Pressure and Weight Change, and Actor Pressure and Body Esteem, were not features of the original Tripartite Model. However, findings in the current study suggested these were important additional pathways to include. Previous researchers have also found evidence of direct pathways between pressure and body image, prompting the suggestion for modification to the Tripartite Model. Keery et al. (2004) also found a direct path from the sociocultural influences to diet restriction among preadolescent girls. Similar findings have also been observed among adult and adolescent samples (e.g., Shroff & Thompson, 2003). In effect, it seems that the sociocultural influences may play a direct role in affecting girls’ body esteem and weight change behaviours, yet also potentially via internalisation of the thin ideal, feminine gender ideals and social comparison. This means that sociocultural pressures may affect girls’ body esteem, whether or not girls have internalised the thin ideal or engage in social comparisons. This finding has important implications for the development for intervention programs among girls. This finding suggests that strategies will have to go beyond addressing girls’ internalisation and social comparisons, and also attempt to address the appearance-related pressures more directly. This may entail including strategies to reduce peer and parental pressure and teasing, and increase media literacy. Prevention programs will be discussed in more detail in the final chapter (Chapter 11).
Conclusions and Limitations of Study 2

Study 2 was designed to examine the underlying factor structures of existing and modified instruments measuring children’s body esteem, body change strategies and related sociocultural factors. In addressing this aim, the current study has found some important new trends. Firstly, children’s body esteem was found to be best represented as a single factor encompassing weight, appearance and muscle esteem. Similarly, boys’ body change strategies were also best represented as one factor. This highlights the need for further research into the ways in which preadolescents’ conceptualise their bodies and the ways in which this may be best represented in appropriate and sensitive measurement tools. Another key finding in Study 2 was that boys demonstrated a high rate of internalisation and also a high rate of endorsement of masculine gender ideals. The instruments which were used to assess these constructs were found to tap into the sociocultural ideals which are of relevance to preadolescent boys.

Study 2 was also designed to examine the ways in which sociocultural variables relate to each other within extended Tripartite Influence Models, with separate models developed for girls and boys. Overall, the extended version of the Tripartite Model for boys provided initial evidence for the inclusion of Perceived Sports Competence and Masculine Gender Ideals. Additionally, the inclusion of Feminine Gender Ideals within the girls’ model also produced a good fit for the data. Furthermore, this study has highlighted the important yet distinct roles which peers, sports-related media and actor/singer-related media play in regard to preadolescent girls’ and boys’ body image.

However, within each of the models there were several paths which were not significant. Future studies are required to further examine the possibility of alternative pathways. Previous studies with adolescent boys and girls have examined alternative pathways between the factors examined in this thesis. For example,
Smolak and Stein (2006) found a different relationship between social comparisons and internalization among adolescent boys. Social comparisons was found to predicted media investment longitudinally which was in turn correlated with muscle building. This highlights the need for further research to more fully examine the ways in which sociocultural factors are inter-related and how they relate to children’s body image.

Additionally, parents are the third critical source of influence included in the original Tripartite Influence Model, which was not examined in this thesis. Therefore, further studies will need to examine the role of parents within this model, as this may change the inter-relations between factors and provide a more comprehensive understanding of preadolescents’ body image development.

It is important to note that the current study had several limitations. This study was a cross-sectional design and therefore the directionality of the effects cannot be demonstrated. At this key stage in children’s development, future research would benefit from examining the developmental trajectory of the ways in which sociocultural agents become influential and interact with each other. Therefore, longitudinal studies are required in order to gain a better understanding of the ways in which sociocultural factors influence children’s body image development. Another limitation of the current study was that children’s BMI data was not collected. The majority of primary schools who participated in this study requested that children were not weighed and measured for height. Therefore BMI scores could not be assessed. BMI has been previously shown to be an important contributor to children’s body image and use of body change strategies (e.g., Ricciardelli et al., 2003) and as such, will be a valuable consideration to future research in this area. In particular, the relationship between children’s Perceived Sports Competence and their body image may be more fully explained with the added consideration of children’s BMI scores. However, other research has demonstrated taking
measurements and weighing children for BMI can cause children some discomfort and concern (Blood and Grogan, 2012).

A main limitation of Study 2 was also the modest sample size. Some researchers have argued that a sample size of between 150 and 300 is required for factor analyses (Hutcheson & Sofroniou, 1999). Insufficient sample size is problematic as it leads to unstable solutions. In the current study, the limited sample size may have produced a factor solution which was less clearly defined with lower communalities and variables loading onto more than one factor. However, other researchers have argued that a sample size of 100 or over is adequate for a factor analysis yielding stable solutions (MacCallum, Widaman, Zhang & Hong, 1999).

The low sample size was due to difficulty in recruiting primary schools and obtaining parental consent. Overall the rate of parental consent was low (25%), and lower to that of previous Australian studies. For example Holt and Ricciardelli (2002) found a consent rate of 35% for a study conducted with children aged eight to 11. Additionally, Dunn and colleagues (2010) found a consent rate of 43% for a study conducted with children aged 10 to 12. Primary school principals and parents may be increasingly cautious about discussing the topic of body image among children of this age, particularly if they are unaware that children in grades three and four have been shown to already display body dissatisfaction. Alternatively, they may be uninclined to allow participation if they believe children in grades three and four do experience body dissatisfaction, as this might make children feel uncomfortable. This may have produced a more selective sample of children who were more likely to not have body image concerns. Across the current studies, few eight-year-old children were allowed to participate. Therefore, parents may believe that their child is too young to discuss the topic of body image. Future studies which aim to recruit primary schools may consider offering a body image information session for parents before the study in order to raise awareness and understanding among parents.
Additionally, offering a positive body image session for the children after the study is complete is one way to introduce positive body image to children and also offer incentive for the school to participate.

An important consideration is that during data collection, the London 2012 Olympics were being highly televised on Australian television. This may have caused greater exposure and a greater focus on male and female athletes than normal, for Australian children. This may relate to the unexpected importance of sports media observed in relation to girls’ body image which has been previously unobserved within research. The current sample was from predominantly White and middle class suburbs and therefore generalisability is limited. Future research would benefit from consideration of more diverse socioeconomic groups and also of more diverse cultural backgrounds, as these are likely to be important sociocultural factors. For example, some studies have demonstrated that among preadolescents, body esteem is affected by culture and ethnicity. For example, Xanthopoulos et al. (2011) found that weight status, race/ethnicity and gender were each significant predictors of children’s body dissatisfaction. In particular, body dissatisfaction was found to be greatest in overweight, Asian and female children. Other studies have demonstrated body esteem is also affected by socioeconomic status. For instance, O’Dea and Caputi (2001) found children and adolescents (aged six to 19) who were of low socioeconomic status were more likely to perceive that they were too thin, whereas those of high SES were more likely to desire a thinner figure.

Despite the above limitations, this study has highlighted some new findings in relation to sociocultural factors which contribute to preadolescents’ body esteem and body change strategies. Additionally, this study has provided some important findings in regard to the ways in which these constructs are represented and measured among preadolescents.
PART 4: GENERAL DISCUSSION AND CONCLUSION
CHAPTER 11

General Discussion

This chapter provides a discussion of how the findings from Studies 1 and 2 have contributed to the current understanding of children’s body image and related sociocultural factors. Key advantages of utilising a mixed methodological approach will also be highlighted. Finally, implications of this research will be considered, focusing on the development of intervention programs which are designed to address the specific needs of preadolescent boys’ and girls’ body image development.

Summary and Future Research

The overall aim of this thesis was to better understand the relationships between media and peers factors, and children’s body image while examining internalisation of body ideals, social comparisons and gender ideals. Although there has been a wide expansion of children’s body image research in recent years (Smolak & Thompson, 2009), previous studies have been limited in several ways. This thesis addressed a number of limitations inherent in previous research. Firstly, previous research has largely focused on girls, with the view that boys are less likely to experience body image concerns (Cohane & Pope, 2001). Secondly, previous researchers have predominantly used survey designs, often with scales which were not originally developed for use with children (e.g., Blowers et al., 2003). These methods are limited as children may misunderstand the questions or they may not be able to fully access the constructs being investigated. Finally, while sociocultural factors have been examined in isolation, the relationships between these factors and application to theoretical models of sociocultural influence, remains relatively unexamined, particularly for boys.
Study 1 was designed to extend our understanding of the ways in which preadolescent boys’ body image and body ideals are shaped by media and peer factors, while comparing this process to that of same-age girls. Given that there has been limited work with preadolescent boys, the use of a qualitative design was a major strength of this thesis. As such, it was possible to identify specific issues relevant to preadolescent boys that have yet to be addressed and it was possible to examine how these issues differed from those issues raised by girls. In particular, Study 1 highlighted the complex and gendered nature of boys’ and girls’ body ideals, and how these are shaped by specific peer and media factors. Some of the key findings were that boys were focused on a fit and not fat body ideal that incorporated both muscularity and leanness. Boys’ were also highly focused on the physical function of their bodies and this was reinforced by their peers and the sportsmen they admired in the media. On the other hand, girls were primarily focused on the appearance of their bodies. Girls’ peer interactions supported this focus with appearance-related conversations and discussion of media celebrities who embodied the thin ideal (predominantly singers and actresses). Study 1 also indicated that children may have difficulties understanding the concept of social comparisons. However, findings further demonstrated that children regularly compared themselves to their peers on a variety of domains. Girls were more inclined to compare aspects of their appearance and boys were more likely to compare their physical abilities.

Using the findings from Study 1, a key contribution of Study 2 was the adaptation of pre-existing instruments to be more easily understood and representative of preadolescents’ experiences of sociocultural factors relating to their body image. Additionally, Study 2 examined the extended Tripartite Model to better understand how sociocultural factors relate to preadolescents’ body esteem and body change strategies.
Internalisation of Body Ideals. A major contribution of Study 1 was a greater understanding of the body ideals which were prominent for preadolescent boys, and how these differed for preadolescent girls. Boys were found to be focused on a complex ideal which included being fit, not fat, muscular and athletic looking. While being fit was also important for girls, girls did not want too much muscularity, and primarily valued thinness. These findings highlight what is already known about the differences between boys’ and girls’ body ideals, however, given the rich data collected from both the individual and focus group interviews, these differences were documented in greater detail. For instance, focus group interactions demonstrated the ways in which boys’ and girls’ ideals were promoted by their peer interactions and the media celebrities they admired. Specifically, preadolescent girls were found to be embedded in an appearance culture, while boys were found to be embedded in a sporting culture, but both were reinforced directly and indirectly by their peers.

Given the complex nature of boys’ body ideals identified in Study 1, Study 2 was designed to adapt a version of the SATAQ to tap into boys’ focus on fitness as identified in Study 1. With the inclusion of items relating to fitness as well as sports-related media targets, the adapted measure of internalisation was demonstrated to effectively tap into boys’ internalisation of the fit/muscular ideal. Overall, boys demonstrated a high rate of internalisation and this was found to be related to their body esteem and their body change strategies. This finding is important as it suggests that although preadolescent boys have different body ideals to girls, they appear to be as susceptible to sociocultural messages as girls are.

Fitness was an important aspect of boys’ body ideals. However, this may be a misrepresented impression of fitness. Rather than a focus on health, it seems that children have internalised the concept of fitness as a reflection of body shape.
Therefore, future research needs to examine the current sociocultural messages which convey the ideal of fitness. The media have recently perpetuated a fitness culture with the rise in visibility of sportsmen as celebrities and also the recent popularity of media programs, such as the *Biggest Loser* and weight loss programs. These programs endorse the importance of fitness and contrast this with the unacceptability of being fat or overweight and thus promote the fit ideal for both men and women. Research which examines the sources of fitness-related messages will help to identify ways to address these factors in prevention programs for children. For example, media literacy programs for children will benefit from the inclusion of fitness-related media literacy. Media literacy prevention programs are discussed in more detail in the next section of this chapter.

Another key factor which was not considered in this thesis is the role of parents. Parents may be a major source of pressure conveying the message that fitness and strength are crucial characteristics for young boys to achieve. Parents provide early experiences related to dietary intake, body perception, modelling, and attitudes toward weight and shape (Anschutz et al., 2009). Influences from parents have been shown to be important correlates of children’s levels of body dissatisfaction and related behaviours (Anschutz et al., 2009; Phares et al., 2004). McCabe and Ricciardelli (2005) demonstrated that among children aged eight to 12 years old, perceived pressure from mothers to increase muscle predicted boys’ body dissatisfaction. Further research is now required to understand the ways in which parents may play a role in preadolescent boys’ internalisation of the fit/muscular ideal.

Studies 1 and 2 have contributed to a more thorough understanding of boys’ internalisation of the fit/muscular body ideal. Further research is needed to build on
these findings and examine whether there are other aspects of this ideal which were not assessed within this thesis. Another appearance domain which may be relevant in regard to boys’ body ideals is height. Hargreaves and Tiggemann (2006) found that some young adolescent boys discussed wanting to be taller and dissatisfaction with their height. Among preadolescent boys, height may be an important factor relating to body ideals because it has implications for physical abilities and the functionality of the body. Similarly, Ricciardelli et al. (2006) noted that adolescent boys valued functional aspect of the body including height, strength, fitness and endurance.

Studies 1 and 2 have also highlighted the complex nature of body ideals held by preadolescents. Particularly among preadolescent boys, body ideals may go beyond the simple dichotomy of weight and muscle. Study 1 documented boys’ desire for an overall fit and athletic looking appearance. In line with this, Study 2 found that muscle and weight esteem were not distinct constructs. Future studies need to examine these complex body ideals in further detail. Further development of measures of boys’ body image and rigorous validation is needed. Measures which assess weight and muscle may not be adequately representing the ways in which preadolescent boys conceptualise their bodies. Instruments which include broader dimensions relating to overall athletic-appearance or satisfaction with body parts in general (e.g., arms, stomach) may provide a more effective means of representing boys’ body image. While there are some existing measures which assess satisfaction with specific body parts (The Body Dissatisfaction subscale from the Eating Disorders Inventory: Wood et al., 1996), they are limited by exclusively focusing on weight.

**Gender Ideals.** Study 1 provided an in depth examination highlighting a close relationship between body ideals and gender ideals which has not previously
been documented among preadolescent boys and girls. Boys’ focus on sport and athleticism is consistent with defining characteristics associated with masculine gender ideals. Similarly for girls, their greater focus on appearance qualities and a more passive attitude towards sport, was synonymous with traditional feminine gender ideals.

Future research needs to consider the ways in which gender ideals interplay with body ideals differentially for preadolescent girls and boys in the early childhood years. Gender socialisation occurs very early in life (Meissner, 2005) and children’s endorsement of gender ideals is also established at a very young age of around five or six years old (Ruble, Martin, & Berenbaum, 2006). Similarly, children become aware of body image ideals at around the same age (Birbeck & Drummond, 2006). As body ideals and gender ideals are intrinsically linked, they are also likely to develop concurrently in the early childhood years. Both of these constructs shape children’s body image development, and as such, need to be examined in future studies. Tracking the development of gender ideals and body image in longitudinal studies throughout childhood will help to identify the role that endorsement of gender ideals play in the development of body image concerns.

It is important to examine whether gender ideal expectations intensify as children become older and enter early adolescence. An important consideration is the role that early puberty plays for girls and boys, and how gender ideals may be negotiated during this time. Pubertal development can be a positive experience for boys because developmental changes, such as muscle gain, broadening of the shoulders and becoming taller, move boys’ closer toward the masculine ideal (e.g., Labre, 2002). On the other hand, changes associated with girls’ pubertal development, such as weight gain, move girls further away from the thin ideal. While
all adolescents go through puberty, for some, this is marked by increased body dissatisfaction (Klump, 2012), particularly for those who experience early puberty in preadolescence, or late puberty (Berger, Weitkamp, & Strauss, 2009). Gender ideal pressures may play a role in this transition, as gender expectations become more salient and relevant during the transition to adolescence (Alfieri, Ruble, & Higgins, 1996). Therefore it is important to examine how gender ideals may contribute to body dissatisfaction as a result of early or late pubertal development.

**Social Comparisons.** The advantages of the qualitative design of Study 1 were particularly evident in examining children’s understanding and use of social comparisons. Individual interviews demonstrated that the concept of social comparison was initially poorly understood by several children. However, across individual and focus group interviews, children clearly demonstrated the use of social comparisons in regard to their peers on a range of domains including appearance, abilities, sporting achievements and media preferences. This demonstrates two important advantages of qualitative research. The first advantage is that the use of interviews allowed for children’s understanding of social comparison to be explored in more depth than would be possible in a survey study. A second advantage was that in focus group interviews, children’s natural engagement in social comparisons could be observed. Additionally, some important gender differences were identified. For girls, appearance-related social comparisons were the most common type of comparison made. Boys demonstrated less frequent use of appearance-related social comparisons and much more frequent use of sports/abilities-related social comparisons.

Social comparisons are a key factor in the development of body image concerns for children. This has been demonstrated in the current thesis and also in
previous research (e.g., Holt & Ricciardelli, 2002). However, additional research is required to further examine the specific ways in which children use social comparisons in their daily lives, and the ways that girls and boys may use social comparisons differently. A notable gender difference observed in Study 1 was in regard to media comparisons and the outcomes of these comparisons. Girls thought that looking at pictures of female celebrities might result in negative emotions such as feeling sad or jealous. This finding is consistent with previous studies which have found that under experimental conditions, media comparisons are associated with increased body dissatisfaction among adolescent girls (e.g., Hargreaves & Tiggemann, 2004). On the other hand, boys thought that a comparison with their favourite celebrity would result in feeling good and inspired to become like that person. Evidence from Study 1 indicated that boys identified with their favourite celebrities who were sportsmen, more so than girls, and therefore the comparison was self-enhancing as boys’ want to grow up to be like their favourite sportsman.

Research with older adolescent boys has also produced mixed findings in relation to the role of social comparisons in body image. Some studies have shown that boys who compare themselves to idealised images demonstrate higher body dissatisfaction (Myers & Crowther, 2009). Other studies have failed to demonstrate evidence for this relationship (van den Berg et al., 2007). Future research needs to examine this in more detail among preadolescent boys. Longitudinal research into the developmental trajectory of boys’ and girls’ upward/downward use of social comparisons and the associated outcomes may provide an understanding of developmental changes in social comparison use from childhood to early adolescence. Specifically, studies are needed to examine whether boys’ general tendency for downward comparisons and upward-inspiring comparisons are
maintained into adolescence, and if so, whether this is a protective factor which could be encouraged in boys who are at risk and also in girls.

While Study 1 demonstrated that boys felt positive when comparing themselves to sportsmen, Study 2 showed that social comparisons predicted boys’ use of body change strategies. Therefore future research is needed to more thoroughly examine the ways in which young boys compare themselves to sportsmen and whether this plays a role in their body image development. Study 2 also highlighted that using a survey format is not the most effective means of examining children’s social comparison use. Two other studies have previously used survey methods to evaluate children’s use of social comparisons (Blowers et al., 2003; Holt & Ricciardelli, 2002), however, it is unclear to what extent children understood the questions, or accurately judged their comparison tendencies.

Drawing on developmental research, observational research techniques may be a more effective means of examining children’s use of social comparisons. Using observational techniques, Chafel (1986b) examined social comparison tendencies in young elementary children. Twenty-six children were targeted for observation over 11 one-hour sessions. An activity was designed to illicit social comparisons and this was given to children during the sessions. This method was found to be an effective way to examine patterns of social comparison use among children. The adoption of such an approach in conjunction with tradition survey methods, may allow researchers to gauge children’s understanding of the concept and also their insight into their own social comparison tendencies.

Peer and Media Factors. Study 1 provided unique insights into peer group dynamics and ways in which peers conveyed messages relating to body ideals and gender ideals. For boys, a sporting culture was observed whereby boys talked about
and engaged in sport with their peers. Sporting attributes such as fitness, leanness and athleticism were seen to be important for popularity and acceptance, and also as a way of avoiding social exclusion. On the other hand, girls were more focused on appearance and appearance-related conversations were more common among peers. This demonstrated that boys’ and girls’ respective body ideals and gender ideals were clearly shaped by peer and media influences.

In line with the sporting culture that shaped boys’ body ideals, boys’ favourite and most talked about celebrities were sportsmen. Sports and sportsmen were also the most common form of media that boys talked about, admired and copied, as highlighted in both the focus group discussions and the conversations that boys reported among their peers at lunchtime. On the other hand, girls were more focused on female singers and actresses. This critical distinction which was been identified via individual interviews and focus groups, highlights the strength of the qualitative approach to provide more thorough understanding of specific sociocultural factors which are of greatest relevance to the participants. This finding was also supported in Study 2 which demonstrated that pressure from sportsmen was the most significant contributor to boys’ internalisation of the fit/muscular ideal, whereas pressure from actresses and singers was the most significant contributor to girls’ internalisation of the thin ideal.

Overall the findings for preadolescent boys across Studies 1 and 2 demonstrate many similarities with trends observed among adolescent boys. For example, a focus on sports and sporting attributes has been documented among adolescent boys. Ricciardelli et al. (2006) found that among boys aged 15 to 17 years, sports were an important context for discussing body image and desired body characteristics were synonymous with those associated with being good at sports.
Similarly, Hargreaves and Tiggemann (2006) also found that peer group conformity and sporting goals provided a more important influence to boys (aged 14 to 16 years) body image than media messages. Abbott and Barber (2010) found that adolescent boys (mean age 13.83 years) demonstrated significantly higher investment in the functional dimensions of the body than the aesthetic dimension of body image.

Future research is needed to further examine how boys’ sports culture and related body ideals are shaped by peer and media factors. Among adolescent boys, appearance-related conversations with peers have been shown to be an important factor in relation to body change behaviours. Jones and Crawford (2006) found that adolescent boys engaged in more appearance-related conversations than girls. For boys, these appearance-related conversations specifically focused on muscle building while girls’ conversations focused on weight loss. Although muscle-building conversations did not feature among boys’ interviews in Study 1, sport and fitness conversations did. These may be a precursor to later development of appearance-focused muscle building conversations and ‘fat talk’ which has been shown to occur among men (Engles, Sladek, & Waldron, 2013). However, as ‘appearance talk’ has not been previously examined among preadolescent boys, therefore future research needs to examine these trends using both qualitative and quantitative methods.

Future research needs to examine the combined influence of media and peers and the ways that these factors are mutually reinforced. For example, studies have shown with adolescent samples that the influence of the media is not necessarily directly felt, but rather pressure is felt when media ideals are reinforced by peers. Clark and Tiggemann (2006) found that for a sample of girls aged nine to 12 years, their exposure to appearance-focused media was not directly related to their body dissatisfaction, but was indirectly related via their conversations about appearance among peers. Peer appearance conversations were related to internalisation of thin ideals, which was, in turn, related to body dissatisfaction. For preadolescent boys,
there is an interrelated sports culture and it is likely that body ideals presented in the media are reinforced by peers.

**Models of Sociocultural Influence.** The development of theoretical models is an important step in understanding the development of preadolescents’ body image. Study 2 was designed to extend and test sociocultural models of influence to explain children’s body esteem and body change strategies. Specifically, the Tripartite Model was extended to include additional constructs which were found to be important in Study 1. Different models were proposed for preadolescent girls and boys based on major gender differences observed in Study 1. For boys, two additional constructs were incorporated as mediating variables; Perceived Sports Competence and Masculine Gender Ideals. Feminine Gender Ideals was another variable incorporated as an additional mediating variable in the Extended Tripartite Model for girls. Examination of models for girls and boys, demonstrated some important pathways in relation to preadolescents’ body esteem and body change strategies.

Notably, among boys the pathway between, Perceived Sports Competence and Body Esteem was significant, demonstrating a large effect. Perceived Sports Competence was an important addition within the boys’ model. However, neither of the variables which were hypothesised to predict Perceived Sports Competence were found to do so. That is, neither, Masculine Gender Ideals nor Internalisation of Body Ideals were significant contributors to Perceived Sports Competence. However, the pathway between Gender Ideals and Perceived Sports Competence approached significance. Study 2 also demonstrated that boys and girls who demonstrated more positive perceived sports competence, also had higher body esteem. This highlights the need for future research to examine the sociocultural factors which are related to
the development of boys’ and girls’ perceived sports competence. Research is required to examine how preadolescents’ come to feel such pressure in regard to their sporting abilities and how this may influence their body image development.

Parents are likely to be an important source of boys’ perceived pressure and may play an important role in shaping preadolescents’ views of their sports competence, however this has not been widely researched. Fredricks and Eccles (2002) examined parental beliefs in relation to children’s competence and value beliefs. The researchers tracked gender differences in competence beliefs longitudinally across children from grade one to grade 12. Parents’ beliefs of children’s ability helped to explain differences and variations in the rate of change in children’s beliefs over time, with the effect being strongest in regard to sports competence beliefs. Research also has shown that parents are influential in children’s perceived sport competence. For example, Davison, Downs and Birch (2006) examined girls’ perceived athletic competence and parental support of physical activity longitudinally across the ages of nine to 11 years. Results demonstrated that parental support was related to higher perceived competence at the age of nine, which, in turn, predicted higher physical activity among girls at age 11.

Within the expanded Tripartite Model for the girls, some key findings were also observed, some of which confirm and support previous findings. In line with previous studies, Study 2 demonstrated girls’ internalisation, social comparisons and perceived pressure from peers were important contributors to body image (e.g., Blowers et al., 2003; Clark & Tiggemann, 2007). Girls who perceived more peer pressure were more likely to have internalised the thin ideal and were also more likely to endorse feminine gender ideals. Both Peer Pressure and Social Comparisons were significantly associated with girls’ weight change behaviours.
On the other hand, other findings within the girls’ extended Tripartite Model have not been previously identified in research. That is, perceived pressure from sports media was a significant contributor to girls’ endorsement of feminine gender ideals. Additionally, the pathway between pressure from sports media and girls’ tendency to compare their weight, fitness and muscles with others was also significant. The influence of sports-related media to girls’ social comparison use and their endorsement of gender ideals have not been previously demonstrated, and are therefore an important avenue for future research. In previous literature, young girls’ media targets have generally been female fashion models and TV and film celebrities (e.g., Dohnt & Tiggemann, 2006). Further research is required to examine how sports media targets may affect girls’ body image. Future research may specifically examine whether sports women are better role models for young girls than models, actresses and singers, in terms of girls’ social comparisons and body image development. Some research with women has demonstrated that social comparisons with fit-looking media targets were not as detrimental to body dissatisfaction, as social comparisons with very thin media targets (Bissell & Zhou, 2004). Additionally, future research needs to examine the changing nature of girls’ body ideals and whether young girls’ focus on sportswomen in the media is reflective of a trend also displayed by women, which values a fit and athletic body type (e.g., Homan et al., 2012).

Another key factor which was not considered in this thesis is the effect of BMI on preadolescents’ body image. BMI has been shown to be consistently related to body image concerns among children (e.g., Holt & Ricciardelli, 2002; McCabe & Ricciardelli, 2005). It is likely that children’s BMI will also influence their perceived sports competence. For example, Morano et al. (2011) found that among boys aged 11 to 14 years, BMI was related to perception of physical abilities and body
dissatisfaction mediated this relationship. Moreover, BMI has been found to be an integral component of other sociocultural models which have been proposed to explain body image concerns. In another recent study, Evans, Tovee, Boothroyd and Drewett (2013) examined a sociocultural model of body dissatisfaction and disordered eating attitude development in young girls aged seven to 11. The researcher included girls’ BMI data and found that path analyses showed that a sociocultural framework including BMI was useful in understanding the development of related attitudes in young girls. Internalisation predicted disordered eating attitudes indirectly via body dissatisfaction, dietary restraint, and depression; it also predicted disordered eating attitudes directly. Additionally, BMI was found to play an important mediating role in the model.

It is also possible that other individual factors may affect the relationships between sociocultural factors and children’s body esteem. Body esteem is an aspect of overall self-esteem (Harter, 2003). As such, several studies have examined children’s and adolescents’ body image in relation to self-esteem. For instance, McCabe and Ricciardelli (2003) found that low self-esteem was related to body dissatisfaction among children aged eight to 11. McCabe et al. (2005) also found that self-esteem was related to body dissatisfaction among children; however this relationship was moderated by BMI. Additionally, Paxton, Neumark-Sztainer, Hannan and Eisenberg, (2006) demonstrated body dissatisfaction was a predictive risk factor for low self-esteem among early adolescent boys and girls over a five year period. Researchers have noted the need for the development of biopsychosocial models among children which include sociocultural factors and as well as individual and biological factors which contribute to body dissatisfaction.
Research among children and adolescents has demonstrated support for the development of biopsychosocial models. Petrie et al. (2010) examined pubertal development, weight pressures, internalization, social appearance comparison, self-esteem, depression, and physical self-concept, cardiorespiratory fitness and BMI. For the girls and boys, variables from each of the biological, social, psychological, and physical factors helped to explain their levels of body satisfaction. Ricciardelli et al. (2003) also examined the role of biopsychosocial factors in understanding body image concerns among children aged eight to 11 years. The researchers found that children’s BMI and sociocultural factors were stronger predictors of body image and body change strategies than psychological factors (self-esteem and negative affect). However, the psychological factors were informative in providing a basis for understanding gender differences in late childhood and early adolescence.

Finally, future research which examines models of children’s body image will also have to consider the ways in which children conceptualise their bodies. It is likely that there are developmental variations across childhood, early adolescence and late adolescence, in the way the body is conceptualised and the relative importance of weight and muscle at each stage. For example, preadolescent boys appear to view muscularity as an important but not distinct feature of a lean and fit looking body. Among adolescent boys, there is a similar trend, however, as boys move through adolescence, muscularity may become a more salient and important domain in its own right. Therefore, future studies need to consider the meaning that boys’ attach to the desire for muscularity, and how this changes longitudinally across development.
Implications for Prevention Programs

This thesis has demonstrated that by the age of eight, boys and girls already have complex body ideals which are clearly shaped by their peer culture and gender ideals. Furthermore, the body ideals held by boys are different to those held by girls, and are influenced by different sources of peer and media influence. These important differences now need to be addressed in the development of more appropriate prevention programs for preadolescent boys and girls.

In recent years prevention programs have been developed to address the increasing problem of body image concerns among preadolescents. However, body image prevention programs aimed at preadolescents have had limited success (Holt & Ricciardelli, 2008). In a review of 13 empirically evaluated prevention programs with children aged eight to 12, Holt and Ricciardelli (2008) found that overall there was no evidence that the programs reduced body image concerns. Only three out of 10 programs which evaluated body image, found any significant improvement in body image concerns (e.g., Smolak, Levine, & Schermer, 1998). Similarly, there was no overall evidence that prevention programs improved eating or dieting behaviours. A major limitation was that only one out of the 13 programs reviewed, evaluated muscle concerns at post-test (McCabe, Ricciardelli, & Salmon, 2006). Therefore, it was not possible to draw any conclusions about whether the programs had any effect on children’s muscle concerns. Additionally, none of the programs specifically targeted the sociocultural pressure placed on young boys to achieve the muscular ideal. Overall the findings clearly indicate that programs are needed which specifically target young boys’ body image concerns and the associated sociocultural pressures.
This thesis has highlighted several key messages which could be included in development of prevention programs which are more specifically targeted to the distinct needs of preadolescent boys and girls. Studies 1 and 2 have demonstrated important relationship between boys’ body image and their perceived sports competence which is influenced by boys’ peer and media relations. Preadolescent boys are embedded in a sport culture which is underpinned by gender ideals. Overall, findings for preadolescent boys in Studies 1 and 2 indicate several parallels to the body concerns and sociocultural pressures documented among adolescent boys. Therefore, prevention programs for preadolescent boys may draw upon prevention programs which have been successful among adolescent boys.

Stanford and McCabe (2005) developed a program specifically designed for adolescent boys to increase levels of body satisfaction and self-esteem, promote acceptance of different body shapes and develop media literacy. The program was conducted with young adolescent boys aged 12 to 13. Content within the program focused on messages boys received about the male body from magazines and their peers. The program resulted in increased self-esteem and satisfaction with muscles, and reduced negative affect, particularly among those boys who already experienced high levels of body dissatisfaction. Similar programs are needed for preadolescent boys. Additionally, incorporating key findings from Studies 1 and 2 may enhance the relevance and effectiveness of such programs. As sportsmen were a major source of influence in this thesis, future prevention programs may include content relating to messages boys received about the male body from sportsmen in the media. Study 1 demonstrated that boys idolised sportsmen and viewed them as role models. Therefore prevention programs designed for preadolescent boys may specifically focus on appropriate role models who are valued for characteristics other than their sporting abilities, muscul arity and athleticism.
Across Studies 1 and 2, the importance of perceived sports competence played an important role in relation to both boys’ and girls’ body image. Perceived sports competence has not been addressed in prevention programs for children. However, there are some evidence-based programs which have been designed to promote healthy body image via increasing physical activity among children. A program called Girls on the Run designed by Debate, Gabriel, Zwald, Huberty and Zhang (2009) involved a 12-week program for girls aged 12-15. The program assessed changes in self-esteem, body size satisfaction, and physical activity commitment and frequency as a result of a 12-week physical activity program. Improvements were found for girls in self-esteem, body size satisfaction and physical activity. Similar results were found by Burgess, Grogan and Burwitz (2006) with a six-week aerobic dance intervention among girls aged 13-14. The researchers found the intervention reduced body dissatisfaction. Recently, Grogan et al. (2013) examined adolescent boys’ and girls’ experiences of a dance psychotherapy session. The researchers found that adolescent boys and girls reported feeling more connected and more accepting of their bodies after the session. In this way, programs which focus on body function in ways which encourage body acceptance and appreciation may also be beneficial among children.

Among preadolescents there is some evidence for the efficacy of a physical activity-based program. Duncan, Al-Nakeeb and Nevill (2009) examined the effect of 6-week circuit-based training on body esteem British boys and girls, aged 10-11 years. The results indicated that children who participated in the program, compared to children in the control group, demonstrated significantly improved body esteem scores post-intervention. However, these scores were not sustained 6 weeks post-intervention. Additionally, the improvement in body esteem scores from pre- to post-intervention was greater for girls as compared to boys. These programs may be
limited in that they do not address children’s perceptions of their sporting abilities, which have been found to be important in this thesis. Therefore, prevention programs which are focused on physical activity may also focus on promoting acceptance for a variety of skills and abilities and improving children’s overall satisfaction with their perception of their physical abilities.

Media literacy approaches have become another way to address the negative influence of the media via the education of students to understand the ways in which media images create social norms. This involves critically analysing media images, and recognising the portrayal of stereotypes, to discover how media images are ‘perfected’ with the use of airbrushing and retouching. One promising prevention program is Media Smart designed by Wilksch and Wade (2009). This program involves eight sessions which address media literacy and media messages conveying ideal body types. It has been found to improve restrained eating among adolescent boys and girls. Similarly, a recent program has addressed media literacy among preadolescents. Bird, Halliwell, Diedrichs and Harcourt (2013) evaluated the prevention program called ‘Happy Being Me’ among girls and boys aged 10 to 11 years. Across three sessions, the content which was covered included airbrush manipulation in magazines of female models (for girls) and male models (for boys), teasing and messages from peers, and awareness of media messages. For girls, participation in the intervention resulted in significant improvements in body satisfaction, appearance-related conversations, appearance comparisons, eating behaviours and intervention topic knowledge at post-intervention, although only the change in body satisfaction was maintained. For boys, participation in the intervention resulted in significant improvements in internalisation and appearance comparisons at post-intervention. However, neither of these changes were sustained at three-month follow-up.
An important finding from Study 1 which could be a component to include in media literacy programs for children was that peers were found to be influential in assisting children critique media messages. Therefore, prevention programs which encourage children to collaborate with their peers in critically appraising media images may be more effective, as these can take advantage of the natural dynamics of peer interactions at this age. Among adolescents it has been found that peers are important not only in terms of providing support, but peers also help to create an understanding of media images (e.g., Krayer et al., 2008). One prevention method which has been successful among adolescent girls is to engage girls in exercises in which they critique the thin ideal (Stice, Shaw, Burton, & Wade, 2006). This method may also be useful amongst preadolescent girls, particularly if the activity is conducted in peer groups in which opinions and understanding can be shared.

Prevention work with preadolescent boys is likely to be more difficult than work with girls, as Study 1 and other qualitative work with adolescents demonstrates that boys are often not comfortable with openly discussing their bodies and body image concerns (e.g., Hargreaves & Tiggemann, 2006; Ricciardelli et al. 2006). This is an important consideration in the design of programs for boys as they need sensitive to boys’ unwillingness to discuss these issues. Ricciardelli et al. (2006) suggest that boys’ prevention programs will need to address the cultural expectations associated with masculinity and how these constrain male body ideals. A good way to initially address these issues is via sports and physical activity, as this is a topic with which boys are very comfortable. Additionally, as preadolescent boys are concerned about their physical abilities, there is a clear need for boys’ prevention efforts to be focused on the functional dimension of body image. One possible approach is to focus prevention strategies on boys’ understanding and conceptualisation of their bodies in relation to the things they can do. This may
include encouraging boys to critique and challenge masculine gender ideals including sporting and athletic stereotypes.

Overall, a key finding across Studies 1 and 2, is that preadolescent girls and boys are susceptible to peer and media factors which may work together to play important roles in shaping children’s body ideals and body image. Therefore, the most successful prevention programs will be those which are designed to concurrently address various sources of sociocultural influence which children face on a daily basis. One major source of influence in regard to children’s body image is parents. As previously mentioned, parents have been shown to impact children’s body image via modelling (Lowes & Tiggemann, 2003) and pressure (Anschutz et al., 2009). Parents also may influence children’s perceived sports competence which is also related to body image (Davison et al., 2006). Therefore, prevention programs need to be wide reaching in addressing the primary sources of children’s body image pressures, and include parental education and strategies for building positive body image.

Researchers have argued the need for an ecological approach to prevention that includes modifications to the school environment, school policy, and the inclusion of parents (Levine & Smolak, 2006; Yager, Diedrich, Ricciardelli, & Halliwell, 2013). Interventions for parents of younger children may also be an important preventative step towards promoting positive body image development among preadolescent children. For example, Spiel, Paxton and Yager (2012) found that three to five year old boys and girls demonstrated weight biases and attitudes and these were predicted by maternal body image attitudes. Findings presented in this thesis also demonstrate that by the ages of eight to 10 years old, children already have firmly established and complex body ideals which contribute to their body
image and use of body change strategies. This highlights the need for prevention programs to target younger children, before body ideals become firmly established and more difficult to change.

Conclusions

The overall aim of this thesis was to better understand the relationships between media and peers factors and children’s body image while examining key sociocultural dimensions, including the internalisation of body ideals, social comparisons and traditional gender ideals. This thesis has showed that preadolescent girls are embedded in an appearance culture, while boys are embedded in a sporting culture, but both are reinforced directly and indirectly by their peers and specific types of media. This thesis has demonstrated that by the age of eight, boys and girls already have complex body ideals which are clearly shaped by their peer culture and gender ideals. Furthermore, the body ideals held by boys are different to those held by girls and are influenced by different sources of peer and media influence.

This thesis has also demonstrated that the measurement of preadolescents’ body image and related sociocultural factors is not a straightforward task. Given the more complex nature of boys’ body ideals and that these are inseparable from their sporting ability, the assessment of boys’ body image needs to be further developed in research. Study 2 demonstrated that instruments which take into account boys’ focus on fitness and muscularity provide a way of tapping into boys’ internalisation more effectively. Additionally, sociocultural models of influence are a critical step in developing a comprehensive understanding of the development of preadolescents’ body image. This thesis has provided initial evidence for the constructs of perceived sports competence and gender ideals to be incorporated into pre-existing models as contributors to body image.
The thesis has also highlighted directions for future research. Importantly, these findings will guide and inform the development of prevention programs which may help to build children’s body esteem and resilience so that they are better equipped to deal with the multitude of sociocultural messages with which they are faced on a daily basis.
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Appendix A: Deakin University Ethics Approval for Study 1

DEAKIN UNIVERSITY
Human Ethics Research
Office of Research Integrity
Research Services Division
78 Elgar Road Burwood Victoria
Postal: 221 Burwood Highway
Burwood Victoria 3125 Australia
Telephone 03 9251 7123 Facsimile 03 9244 6581
research-ethics@deakin.edu.au

Memorandum

To:       A/Prof Lina Ricciardelli
          School of Psychology

B

cc: Misa Gemma Tatangelo

From:     Deakin University Human Research Ethics Committee (DU-HREC)
Date:     01 June, 2010
Subject:  2010-078
          Social Comparisons and the Influence of Peers and Media on Children's body image

Please quote this project number in all future communications

The application for this project was considered at the DU-HREC meeting held on 31/05/2010.

Approval has been given for Misa Gemma Tatangelo, under the supervision of A/Prof Lina Ricciardelli, School of Psychology, to undertake this project from 31/05/2010 to 31/05/2013.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

• Serious or unexpected adverse effects on the participants
• Any proposed changes in the protocol, including extensions of time.
• Any events which might affect the continuing ethical acceptability of the project.
• The project is discontinued before the expected date of completion.
• Modifications are requested by other HREC's.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DU-HREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit
research-ethics@deakin.edu.au
Telephone: 03 9251 7123
Appendix B: Victorian Department of Education Approval for Study 1

Department of Education and Early Childhood Development

Office for Policy, Research and Innovation

2 Treasury Place
East Melbourne, Victoria 3002
Telephone: +61 3 9637 2000
P.O. Box 4097
GPO Box 4097
Melbourne, Victoria 3001

2010_000702

Associate Professor Lina Ricciardelli
School of Psychology
Deakin University
221 Burwood Highway
BURWOOD 3125

Dear Associate Professor Ricciardelli

Thank you for your application of 23 June 2010 in which you request permission to conduct a research study in government schools titled: Social comparisons and the influence of peers and media on children's body image.

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below:

1. Should your institution's ethics committee require changes or you decide to make changes, these changes must be submitted to the Department of Education and Early Childhood Development for its consideration before you proceed.

2. You obtain approval for the research to be conducted in each school directly from the principal. Details of your research, copies of this letter of approval and the letter of approval from the relevant ethics committee are to be provided to the principal. The final decision as to whether or not your research can proceed in a school rests with the principal.

3. No student is to participate in this research study unless they are willing to do so and parental permission is received. Sufficient information must be provided to enable parents to make an informed decision and their consent must be obtained in writing.

4. As a matter of courtesy, you should advise the relevant Regional Director of the schools you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director.

5. Any extensions or variations to the research proposal, additional research involving use of the data collected, or publication of the data beyond that normally associated with academic studies will require a further research approval submission.

6. At the conclusion of your study, a copy or summary of the research findings should be forwarded to Education Policy and Research Division, Department of Education and Early Childhood Development, Level 3, 33 St Andrews Place, GPO Box 4367, Melbourne, 3001.
I wish you well with your research study. Should you have further enquiries on this matter, please contact Jonathan Howcroft, Policy and Research Officer, Education Policy and Research, by telephone on (03) 9947 1892 or by email at <howcroft.jonathan.j@edumail.vic.gov.au>.

Yours sincerely

[Signature Redacted by Library]

Dr Elizabeth Hartnell-Young
Group Manager
Education Policy and Research

06/07/2010

enc
Appendix C: Catholic Education Department Approval for Study 1

In reply please quote:
GE10/0009
1621
28 June 2010

Ms G Tatangelo
PhD candidate
C/- A/Prof L Ricciardelli
School of Psychology
Deakin University
221 Burwood Highway
BURWOOD VIC 3125

Dear Ms Tatangelo,

I am writing with regard to your research application received on 22 June 2010 concerning your forthcoming project titled Social comparisons and the influence of peers and the media on children’s body image. You have asked approval to approach Catholic schools in the Archdiocese of Melbourne, as you wish to involve Year 3–4 students.

I am pleased to advise that your research proposal is approved in principle subject to the nine standard conditions outlined below.

1. The decision as to whether or not research can proceed in a school rests with the school’s principal, so you will need to obtain approval directly from the principal of each school that you wish to involve.

2. You should provide each principal with an outline of your research proposal and indicate what will be asked of the school. A copy of this letter of approval, and a copy of notification of approval from the university’s Ethics Committee, should also be provided.

3. A Working with Children (WWC) check – or registration with the Victorian institute of Teaching (VIT) – is necessary for all researchers visiting schools. Appropriate documentation must be shown to the principal before starting the research in each school.

4. No student is to participate in the research study unless s/he is willing to do so and informed consent is given in writing by a parent/guardian.

5. You should provide the names of schools which agree to participate in the research project to the Knowledge Management Unit of this Office.
6. Any substantial modifications to the research proposal, or additional research involving use of the data collected, will require a further research approval submission to this Office.

7. Data relating to individuals or schools are to remain confidential.

8. Since participating schools have an interest in research findings, you should consider ways in which the results of the study could be made available for the benefit of the school communities.

9. At the conclusion of the study, a copy or summary of the research findings should be forwarded to this Office. It would be appreciated if you could submit your report in an electronic format using the email address provided below.

I wish you well with your research study. If you have any queries concerning this matter, please contact Mr Mark McCarthy of this Office. The email address is <km@cemelb.catholic.edu.au>.

Yours sincerely

Nancy Bicchieri
DEPUTY DIRECTOR

Signature Redacted by Library
Appendix D: Email to School Principals for Study 1

Dear (Principal),

Your school is invited to participate in this research project which is being conducted by Miss Gemma Tatangelo (PhD student) and Associate Prof Lina Ricciardelli (supervisor) of the School of Psychology at Deakin University.

Positive body image in childhood is crucial for healthy social and emotional development across many domains. Therefore it is vital that we gain a better understanding of the factors that contribute to the development of body dissatisfaction among children. In order to do so, it is necessary to study this issue in relation to other important aspects of their development. The focus of this study children’s body image in relation to peer and media influences. Primary school-aged children start to use social comparisons more frequently to evaluate themselves as they begin to define their self-concept. In particular between the ages of 8 to 11, social comparisons become more evaluative in nature and more frequently used. This is also the period where many children experience a decline in positive self-concept and become more likely to experience body dissatisfaction.

We would like to invite some volunteers from your school (grades three and four) to participate in our research. With your consent we would invite children from grades three and four (with parental consent) to participate in individual interviews or focus group interviews of no more than 15 to 45 minutes. Debriefing will be conducted at the end of each of the interviews. We would like to fit in with your school to find a time that is most convenient and ensures minimal disruption. For example, interviews may be conducted during class time, free-time, play time, after school care or during holiday programs, depending on what is preferred.

This project has received approval from the Deakin Human Research Ethics Committee, the Department of Education and Early Childhood Development (DEECD) and the Catholic Education Department. If you would like more information in regard to the specific details of the study and the rights of the participants, a Plain Language brochure and a consent form will be sent by post or email.

I will contact you in the next week to find out if you would like to receive the full details of the study and to answer any questions you may have.

Kind Regards,
Gemma Tatangelo

Gemma Tatangelo
(W): 9251 7235, (M) 0411057145, glta@deakin.edu.au
Lina Ricciardelli (W): 9244 6866, lina@deakin.edu.au
School of Psychology, Deakin University, 221 Burwood Highway, BURWOOD VIC 3125.
Appendix E: Cover Letter and Plain Language Statement for Principals for Study 1

Dear (Principal)

Your school is invited to participate in this research project which is being conducted by Ass/Prof Lina Ricciardelli (supervisor) and Miss Gemma Tatangelo (PhD student) of the School of Psychology at Deakin University.

Our research aims to study children's body image in relation to social comparisons and other self-concepts using individual and focus group interviews. We would like to invite all children from grades three and four from your school to participate in our research. With your consent and parental consent, we will invite every child to participate in an individual interview or a focus group interview.

An experienced and fully-trained member of the research team (with current Working with Children Checks and Police Checks) will visit the school to conduct all interviews. School staff members, including the children’s class teachers, will also be required to be present to supervise the children – both those being measured and those who do not have consent to participate. We will be working closely with you and your staff to ensure minimal disruption on the interview days.

Please find enclosed with this letter:
− The Plain Language brochure detailing the research project and your rights as a participant so that you can make an informed decision about whether to allow your school to participate in the evaluation of this study.
− The Consent form for your school’s participation in this study.

Participation in assessment of this program is voluntary; and the school is not obliged to take part if you do not wish to. Your decision about whether the school takes part or not, or take part and then later withdraw, will not affect your relationship with Deakin University in any way. If you give permission for the school to participate in the study, please complete and sign the enclosed Consent form and return it to one of the principal researchers. The school’s participation would be greatly appreciated.

Gemma Tatangelo (W): 9251 7235,
Lina Ricciardelli (W): 9244 6866.
School of Psychology, Deakin University,
221 Burwood Highway, BURWOOD VIC 3125.
Tel (03) 9251 7123
DEAKIN UNIVERSITY PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: The Principal

Plain Language Statement

Date:

Full Project Title: Social Comparisons and the Influence of Peers and the Media on Children’s Body Image

Principal Researcher: Ass/Prof Lina Ricciardelli

Student Researcher: Gemma Tatangelo

This Plain Language Statement and Consent Form is 6 pages long. Please make sure you have all the pages.

1. Your Consent

Your school is invited to take part in this research project.

This Plain Language Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project so that you can make a fully informed decision whether you are going to participate.

Please read this Plain Language Statement carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your local health worker. Feel free to do this.

Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent for your school to be invited to participate in the research project.

You will be given a copy of the Plain Language Statement and Consent Form to keep as a record.

2. Purpose and Background

Your primary school is invited to participate in this research project which is being conducted by Ass/Prof Lina Ricciardelli (supervisor) and Miss Gemma Tatangelo (PhD student) of the School of Psychology at Deakin University. This project will form part of Miss Tatangelo’s PhD thesis, and has been approved by the Human Research Ethics Committee and the Department of Education and Early Childhood Development (DEECD).

The level of obesity and eating disorders among adolescents and adults is reaching epidemic proportions. Recently these problems have become areas of concern for professionals working with children. In order to more fully understand the development of children’s body image concerns, we need to study these attitudes and related behaviours in relation to other important aspects of their development.
Body image concerns in children are influenced the way in which children compare themselves to others (media figures and friends), and how they process these comparisons. Therefore the aim of the research is to understand children’s use of social comparisons in relation to body image and other self-concepts. We will specifically target children aged 8 and 10 years as this is the age period when social comparisons become more evaluative in nature and are more frequently used.

3. Procedures

We will use individual and group interviews to study children's body image in relation to social comparisons. Children will be asked questions about topics including the way they look, body shape, sports and exercise, their friends, and famous people and characters. We will ask children about the nature and type of social comparisons they use across different domains, and how these impact on their body image, mood and self-esteem.

We are inviting all children from grades three and four from your child’s school to participate in our research. We will invite every child with written parental consent, to participate in an interview of no more than 20 minutes.

In addition, a small number of children will be invited to participate in some focus group interviews. The children will be invited to share their viewpoints on the topics in a group discussion with four of their same-sex peers over four different occasions throughout the semester. Each group interviews will be of no more than 45 minutes.

An experienced and fully-trained member of the research team (with a current Working with Children Check) will visit the school to conduct all interviews. School staff members, including the children’s class teachers, will also be required to be present to supervise the children – both those being measured and those who do not have consent to participate.

The interview will be tape-recorded and transcribed, however we can assure you that the interview and all personal information (name etc) will remain strictly confidential. The interviews will be de-identified and will be kept in a secure place in the School of Psychology at Deakin University for a minimum of ten years.

5. Possible Benefits

There are no specific benefits to the individuals involved in this project. Any benefits associated with this research are found in its contribution to body of knowledge which is dedicated to the quest of improving children’s body image and self-image and addressing many psychosocial problems that begin during childhood. We hope for this research to lead to improvements in self-esteem which will significantly contribute to better psychological and physical health. If we can improve children’s self-image then this will lead to more positive social interactions, higher levels of involvement in both structured and less structured physical activity, and lower rates of mood related disorders.

6. Possible Risks

No physical or emotional risks are anticipated however the interviews will include some personal questions relating to body image which may raise children’s
awareness of their body image and that of friends. However, we have found that a lot of children are already concerned with body image and are aware of the messages given out by the media and other sources in their daily environment. We will also ask the questions in a sensitive way as we want to help promote children’s healthy body image and social development.

If children become distressed we will stop the interview and debrief. We will also contact the School Counsellor who will be fully informed about our study.

Furthermore, we will also provide children and parents details of places they can get assistance.

4. Privacy, Confidentiality and Disclosure of Information

The interview will be tape-recorded and transcribed, however we can assure you that the interview and all personal information (name etc.) will remain strictly confidential. The interviews will be de-identified and will be kept in a secure place in the School of Psychology at Deakin University for a minimum of ten years, and then will be disposed of in a confidential bin disposal in the School of Psychology at Deakin.

5. Results of Project

Principals, parents or guardians can write or email the researchers for a copy of the group results or an opportunity to view the transcripts once the study is completed.

6. Participation is Voluntary

Participation in assessment of this program is voluntary; your decision about whether your school takes part or not, or take part and then later withdraw, will not affect your relationship with Deakin University in any way.

Before you make your decision, a member of the research team will be available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

If you give permission for your school to participate in the study, please complete and sign the enclosed Consent form and return it to the member of the research team. Your participation will be greatly appreciated.

Parents will receive a letter of invitation, a plain language statement outlining the details of the study and a consent form which they can return to the school if they wish to allow their child the opportunity to participate.

Children will also be invited to participate on the day and they will be offered to go back to their classroom if they do not wish to take part or continue with any aspect of the study.

7. Ethical Guidelines

This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.
The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University and the Department of Education and Early Childhood Development (DEECD).

8. **Complaints**

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager, Office of Research Integrity, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581; research-ethics@deakin.edu.au.

Project Number EC: 2010-078.

9. **Further Information, Queries or Any Problems**

Should you require any further information, or would like a summary of the results once the research is completed; please do not hesitate to contact either of the researchers; Gemma Tatangelo (W): 9251 7235, Lina Ricciardelli (W): 9244 6866.

If you have any concerns about the conduct of this research project, please contact the Secretary, Ethics Committee, Research Services Division, Deakin University, 221 Burwood Highway, BURWOOD VIC 3125. Tel (03) 9251 7123 (International +61 3 9251 7123).
Appendix F: Organisational Consent Form for Study 1

DEAKIN UNIVERSITY PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: The Principal of ........................................primary school

Organisational Consent Form

Date:

Full Project Title: Social Comparisons and the Influence of Peers and the Media on Children’s Body Image

I have read and I understand the attached Plain Language Statement.

I give my permission for students from grades 3 and 4 of (name of school) to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal the participants’ identities and personal details if information about this project is published or presented in any public form.

I agree that

1. The institution/organisation MAY / MAY NOT be named in research publications or other publicity without prior agreement.

2. I / We DO / DO NOT require an opportunity to check the factual accuracy of the research findings related to the institution/organisation.

3. I / We EXPECT / DO NOT EXPECT to receive a copy of the research findings or publications.

Name of person giving consent (printed) ……………………………………………………………

Signature …………………………………………………………… Date ………………………
Appendix G: Cover Letter for Parents for Study 1

Dear Parent/Guardian,

Your child is invited to participate in this research project which is being conducted by Ass/Prof Lina Ricciardelli (supervisor) and Miss Gemma Tatangelo (PhD student) of the School of Psychology at Deakin University.

Our research aims to study children's body image in relation to social comparisons and other self-concepts using individual and focus group interviews.

We are inviting all children from grades three and four from your child's school to participate in our research. Your school’s Principal has given approval for your school to take part in this study. We will invite every child with written parental consent, to participate in an interview of no more than 45 minutes.

An experienced and fully-trained member of the research team (with current Working with Children Checks and Police Checks) will visit the school to conduct all interviews. School staff members, including the children’s class teachers, will also be present to supervise the children – both those being measured and those who do not have consent to participate. We will be working closely with your school to ensure minimal disruption on the interview days.

Please find enclosed with this letter:
- The Plain Language brochure detailing the research project and your rights as a participant so that you can make an informed decision about whether to participate in the evaluation of this study.
- The Consent form for your child’s participation in this study.

Participation in assessment of this program is voluntary; you and/or your child are not obliged to take part if you do not wish to. Your decision about whether your child takes part or not, or take part and then later withdraw, will not affect your relationship with your child’s school or with Deakin University in any way.

If you give permission for your child to participate in the study, please complete and sign the enclosed Consent form and return it to the school. Your child’s participation will be greatly appreciated. Children will also be invited to participate on the day and they will be offered to go back to their classroom if they do not wish to take part or continue with any aspect of the study.
Appendix H: Plain Language Statement for Parents for Study 1

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT

TO: Parents and Guardians

Plain Language Statement

Date:

Full Project Title: Social Comparisons and the Influence of Peers and the Media on Children’s Body Image

Principal Researcher: Ass/Prof Lina Ricciardelli

Student Researcher: Gemma Tatangelo

This Plain Language Statement and Consent Form is 6 pages long. Please make sure you have all the pages.

10. Your Consent

Your child is invited to take part in this research project.

This Plain Language Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project so that you can make a fully informed decision whether you are going to participate.

Please read this Plain Language Statement carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your local health worker. Feel free to do this.

Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent for your child to be invited to participate in the research project.

You will be given a copy of the Plain Language Statement and Consent Form to keep as a record.

11. Purpose and Background

Your child is invited to participate in this research project which is being conducted by Ass/Prof Lina Ricciardelli (supervisor) and Miss Gemma Tatangelo (PhD student) of the School of Psychology at Deakin University. This project will form part of Miss Tatangelo’s PhD thesis, and has been approved by the Human Research Ethics Committee and the Department of Education and Early Childhood Development (DEECD).

The level of obesity and eating disorders among adolescents and adults is reaching epidemic proportions. Recently these problems have become areas of concern for
professionals working with children. In order to more fully understand the development of children’s body image concerns, we need to study these attitudes and related behaviours in relation to other important aspects of their development.

Body image concerns in children are influenced the way in which children compare themselves to others (media figures and friends), and how they process these comparisons. Therefore the aim of the research is to understand children’s use of social comparisons in relation to body image and other self-concepts. We will specifically target children aged 8 and 10 years as this is the age period when social comparisons become more evaluative in nature and are more frequently used.

12. Procedures

We will use individual and group interviews to study children's body image. Children will be asked questions about topics including the way they look, body shape, sports and exercise, their friends, and famous people and characters. We will ask children about the nature and type of social comparisons they use across different domains, and how these impact on their body image, mood and self-esteem.

We are inviting all children from grades three and four from your child’s school to participate in our research. Your school’s Principal has given approval for your school to take part in this study. We will invite every child with written parental consent, to participate in an interview of no more than 20 minutes.

In addition, a small number of children will be invited to participate in some focus group interviews. The children will be invited to share their viewpoints on the topics in a group discussion with four of their same-sex peers over four different occasions throughout the semester. Each group interviews will be of no more than 45 minutes.

An experienced and fully-trained member of the research team (with current Working with Children Checks and Police Checks) will visit the school to conduct all interviews. School staff members, including the children’s class teachers, will also be present to supervise the children – both those being measured and those who do not have consent to participate.

The interview will be tape-recorded and transcribed, however we can assure you that the interview and all personal information (name etc.) will remain strictly confidential. The interviews will be de-identified and will be kept in a secure place in the School of Psychology at Deakin University for a minimum of ten years.

5. Possible Benefits

There are no specific benefits to the individuals involved in this project. Any benefits associated with this research are found in its contribution to body of knowledge which is dedicated to the quest for improving children’s body image and self-image and addressing many psychosocial problems that begin during childhood. We hope for this research to lead to improvements in self-esteem which will significantly contribute to better psychological and physical health. If we can improve children’s self-image then this will lead to more positive social interactions, higher levels of
involvement in both structured and less structured physical activity, and lower rates of mood related disorders.

6. Possible Risks

No physical or emotional risks are anticipated however the interviews will include some personal questions relating to body image which may raise children’s awareness of their body image and that of friends. However, we have found that a lot of children are already concerned with body image and are aware of the messages given out by the media and other sources in their daily environment. We will also ask the questions in a sensitive way as we want to help promote children’s healthy body image and social development.

If children become distressed we will stop the interview and debrief. We will also contact the School Counsellor who will be fully informed about our study.

We will also provide children and parents details of places they can get assistance.

13. Privacy, Confidentiality and Disclosure of Information

The interview will be tape-recorded and transcribed, however we can assure you that the interview and all personal information (name etc.) will remain strictly confidential. The interviews will be de-identified and will be kept in a secure place in the School of Psychology at Deakin University for a minimum of ten years, and then will be disposed of in a confidential bin disposal in the School of Psychology at Deakin.

14. Results of Project

Parents or guardians can write or email the researchers for a copy of the group results or an opportunity to view the transcripts once the study is completed.

15. Participation is Voluntary

Participation in assessment of this program is voluntary; your child is not obliged to take part if you do not wish them to. Your decision about whether your child takes part or not, or take part and then later withdraw, will not affect your relationship with your child’s school or with Deakin University in any way.

Before you make your decision, a member of the research team will be available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

If you give permission for your child to participate in the study, please complete and sign the enclosed ‘Consent on Behalf of a Minor or Dependent Person’ form and return it to the school. Your child’s participation will be greatly appreciated.

Children will also be invited to participate on the day and they will be offered to go
back to their classroom if they do not wish to take part or continue with any aspect of
the study.

If you decide to withdraw your child from this project, please notify a member of the
research team or complete and return the Revocation of Consent Form attached.

16. Ethical Guidelines
This project will be carried out according to the *National Statement on Ethical
Conduct in Human Research* (2007) produced by the National Health and Medical
Research Council of Australia. This statement has been developed to protect the
interests of people who agree to participate in human research studies.

The ethics aspects of this research project have been approved by the Human Research
Ethics Committee of Deakin University and the Department of Education and Early
Childhood Development (DEECD).

17. Complaints
If you have any complaints about any aspect of the project, the way it is being
conducted or any questions about your rights as a research participant, then you may
contact:

The Manager, Office of Research Integrity, Deakin University, 221 Burwood
Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581;
research-ethics@deakin.edu.au.

18. Further Information, Queries or Any Problems
Should you require any further information, or would like a summary of the results
once the research is completed; please do not hesitate to contact either of the
researchers; Gemma Tatangelo (W): 9251 7235, Lina Ricciardelli (W): 9244 6866.

If you have any concerns about the conduct of this research project, please contact
the Secretary, Ethics Committee, Research Services Division, Deakin University,
221 Burwood Highway, BURWOOD VIC 3125. Tel (03) 9251 7123 (International
+61 3 9251 7123).
Appendix I: Consent form for Parents for Study 1

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Parents and Guardians

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**Third Party Consent Form**

**Date:**

**Full Project Title:** Social Comparisons and the Influence of Peers and the Media on Children’s Body Image

I have read and I understand the attached Plain Language Statement.

I give my permission for ................................................................. (name of participant)

to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal my child’s identity and personal details, including where information about this project is published, or presented in any public form.

---

Participant’s Name (printed) ............................................................

Name of Person giving Consent (printed) ....................................................

Relationship to Participant: ...............................................................

Signature ................................................................. Date ........................
Appendix J: Interview questions for Study 1

1. How would you describe yourself?

2. How would you describe the way you look?

3. What do you usually do at lunchtime with your friends?

4. When you are talking with your friends, what are some of the things you usually talk about?

5. What do you do on your weekends?

6. What kinds of television do you watch? What is your favourite thing to watch? What do you watch the most?

7. Do you read magazines? What do you like about the magazine?

8. Do you play, play station or computer games? What do you like about the game?

9. Who are your favourite famous people or characters? (prompt: Like singers, actors, sports people or characters from movies). What do you like about them, can you describe them for me?

10. Do you ever talk about famous people with your friends?

11. Do you think that boys/girls your age ever try to copy famous people?

12. How important is it (to you) to be good at sports?

13. What does it mean to be fit? Do you think it is important to be fit?

14. Why do some girls/boys want to go on a diet?

15. Why do some girls/boys exercise?
16. How important is it to be slim?

17. What do you think is a good-looking body shape for girls/boys?

18. How would you feel if you realized you had put on weight?

Would you do anything to change this?

19. How would you feel if you realized you had lost weight? Would you do anything to change this?

20. How would you feel if you realized you had gained muscle?

21. Why do some boys/men want to be more muscular?

22. Do boys your age ever want to be more muscular?

23. What would you like to look like when you are grown up? (in your 20s)

24. Is there any one you can think of who you would like to look more like when you are older—can be anyone, famous or normal person?

25. Looking at lots of pictures of people like (insert child’s favourite celebrity), how might that make a boy/girl feel about the way they look in comparison to the way the famous person looks?

26. Do you ever compare how well you play sports in to the way other girls/boys your age play sports?

27. Do you ever compare the way you look to the way other children look?

28. Why do you think another girl/boy might compare themselves?

29. Do you ever compare the way you look to the way that your favourite famous person looks?
Questions 7 and 8 were removed after seven individual interviews and four focus group interviews due to their failure to elicit responses which were meaningful in regard to the aims of the study. Question 13 was added after discourse relating to fitness was spontaneously brought up in several of the first seven interviews. Questions 26 and 27 were only asked in the individual interviews as they were thought to be too personal to ask during group interviews.
Appendix K: Deakin University Ethics Approval for Study 2

Memorandum

To: A/Prof Lina Ricciardelli
School of Psychology

B

cc: Miss Gemma Tatangelo

From: Deakin University Human Research Ethics Committee (DUHREC)

Date: 03 April, 2012

Subject: 2012-021

The influence of peers and media on children’s body image

Please quote this project number in all future communications

The application for this project was considered at the DUHREC meeting held on 13/02/2012.

Approval has been given for Miss Gemma Tatangelo, under the supervision of A/Prof Lina Ricciardelli, School of Psychology, to undertake this project from 3/04/2012 to 3/04/2016.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HRECs.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DUHREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit
research-ethics@deakin.edu.au
Telephone: 03 9251 7123
Appendix L: Victorian Department of Education Approval for Study 2

Department of Education and Early Childhood Development

Strategy and Review Group

2 Treasury Place
East Melbourne, Victoria 3002
Telephone: +61 3 9427 2000
Fax: 9210083
GPO Box 4567
Melbourne, Victoria 3001

2012_001524

Miss Gemma Tatangelo
School of Psychology
Deakin University
221 Burwood Highway
BURWOOD 3125

Dear Miss Tatangelo

Thank you for your application of 16 April 2012 in which you request permission to conduct research in Victorian government schools and/or early childhood settings titled The influence of peers and media on children’s body image.

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. The research is conducted in accordance with the final documentation you provided to the Department of Education and Early Childhood Development.

2. Separate approval for the research needs to be sought from school principals and/or centre directors. This is to be supported by the DEECD approved documentation and, if applicable, the letter of approval from a relevant and formally constituted Human Research Ethics Committee.

3. The project is commenced within 12 months of this approval letter and any extensions or variations to your study, including those requested by an ethics committee must be submitted to the Department of Education and Early Childhood Development for its consideration before you proceed.

4. As a matter of courtesy, you advise the relevant Regional Director of the schools or governing body of the early childhood settings that you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director or governing body.

5. You acknowledge the support of the Department of Education and Early Childhood Development in any publications arising from the research.

6. The Research Agreement conditions, which include the reporting requirements at the conclusion of your study, are upheld. A reminder will be sent for reports not submitted by the study’s indicative completion date.

7. If DEECD has commissioned you to undertake this research, the responsible Branch/Division will need to approve any material you provide for publication on the Department’s Research Register.
I wish you well with your research study. Should you have further enquiries on this matter, please contact Kathleen Nolan, Research Officer, Research and Evaluation Branch, by telephone on (03) 9637 3244 or by email at nolan.kathleen.j@edumail.vic.gov.au.

Yours sincerely

[Signature Redacted by Library]

Dr Elizabeth Hartnell-Young
Director
Research and Evaluation Branch

15/05/2012

enc
Appendix M: Catholic Education Department Approval Study 2

Catholic Education Office
Archdiocese of Melbourne

In reply please quote:

GE12/0009
1787

13 April 2012

Miss G. Tatangelo
PhD candidate
C/- A/Prof Lina Ricciardelli
School of Psychology
Deakin University
221 Burwood Highway
BURWOOD VIC 3125

Dear Miss Tatangelo

I am writing with regard to your research application received on 11 April 2012 concerning your forthcoming project titled The influence of peers and the media on children's body image. You have asked approval to approach Catholic schools in the Archdiocese of Melbourne, as you wish to survey Year 3-4 students.

I am pleased to advise that your research proposal is approved in principle subject to the nine standard conditions outlined below.

1. The decision as to whether or not research can proceed in a school rests with the school's principal, so you will need to obtain approval directly from the principal of each school that you wish to involve.

2. You should provide each principal with an outline of your research proposal and indicate what will be asked of the school. A copy of this letter of approval, and a copy of notification of approval from the university's Ethics Committee, should also be provided.

3. A Working with Children (WWC) check – or registration with the Victorian Institute of Teaching (VIT) – is necessary for all researchers visiting schools. Appropriate documentation must be shown to the principal before starting the research in each school.

4. No student is to participate in the research study unless s/he is willing to do so and informed consent is given in writing by a parent/guardian.

5. You should provide the names of the schools which agree to participate in the research project to the Knowledge Management Unit of this Office.
6. Any substantial modifications to the research proposal, or additional research involving use of the data collected, will require a further research approval submission to this Office.

7. Data relating to individuals or schools are to remain confidential.

8. Since participating schools have an interest in research findings, you should consider ways in which the results of the study could be made available for the benefit of the school communities.

9. At the conclusion of the study, a copy or summary of the research findings should be forwarded to this Office. It would be appreciated if you could submit your report in an electronic format using the email address provided below.

I wish you well with your research study. If you have any queries concerning this matter, please contact Mr Mark McCarthy of this Office.

The email address is <km@oemalb.catholic.edu.au>.

Yours sincerely

[Signature redacted by Library]

Carl Stevens
MANAGER, POLICY & RESEARCH
Appendix N: Email to School Principals for Study 2

Dear (Principal),

We are inviting primary schools in Melbourne and Regional Victoria to participate in a study on children’s body image. We would like to invite (INSERT NAME OF SCHOOL) Primary School to participate in this research project which is being conducted by Miss Gemma Tatangelo (PhD student) and Associate Prof Lina Ricciardelli (supervisor) of the School of Psychology at Deakin University.

Children as young as 6 and 7 years old experience body dissatisfaction. This study looks at the ways that the media and peers influence boys’ and girl’s body image. As the ages of 8 to 10 are particularly significant for the development of body image concerns, we would like to focus on children from grades 3 and 4. The overall aim of this research is to gain insight into the nature and causes of children’s body image concerns as this is a critical step in the process of designing programs for the prevention and treatment of these concerns.

We would like to invite all the children from grades 3 and 4 from your school to participate. Participation would require the children (with parental consent) complete a once-off questionnaire in class which take no longer than one hour. We will ask children questions regarding their peers, the media, their feelings in relation to the way they look, their use of body change strategies, their use of social comparisons and their feelings about sports and exercise. We would be happy to provide a positive body image seminar for the children once they have completed the study, at a time that is convenient for the school.

An experienced member of the research team (with a current Working with Children Check) will visit the school to conduct all questionnaires. We would like to work closely with you and your staff to negotiate a time that is most convenient and ensures minimal disruption. This project has received approval from the Deakin Human Research Ethics Committee and the Department of Education Early Childhood Development (DEECD).

If you would like more information or if you any questions please don’t hesitate to email me or call me (details provided below).

Kind Regards,

Gemma Tatangelo

Gemma Tatangelo (W): 9251 7235, (M) 0411057145, glta@deakin.edu.au
Lina Ricciardelli (W): 9244 6866, lina@deakin.edu.au
School of Psychology, Deakin University,
221 Burwood Highway, BURWOOD VIC
Appendix O: Cover Letter and Plain Language Statement for Principals for Study 2

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: (The Principal)

Plain Language Statement

Date: 

Full Project Title: The Influence of Peers and the Media on Children’s Body Image

Principal Researcher: Ass/Prof Lina Ricciardelli

Student Researcher: Gemma Tatangelo

This Plain Language Statement is 4 pages long. Please make sure you have all the pages. You may keep this document as a record.

19. Your Consent

Your school is invited to take part in this research project. This Plain Language Statement contains detailed information about the research project. Its purpose is to explain to you as clearly as possible all the procedures involved in this project so that you can make a fully informed decision about whether your school is going to participate. Please read this Plain Language Statement carefully. Feel free to ask questions about any of the information in the document. You may also wish to discuss the project with a colleague, friend or your local health worker. Feel free to do this.

Once you understand what the project is about and if you agree, you will be asked to sign the consent Form. By signing the consent form, you indicate that you understand the information and that you give your consent for your school to participate in the research project. The consent form is attached at the end of this document.

20. Purpose and Background

This research project is being conducted by Ass/Prof Lina Ricciardelli (supervisor) and Miss Gemma Tatangelo (PhD student) of the School of Psychology at Deakin University. This project will form part of Miss Tatangelo’s PhD thesis. It has been approved by the Deakin Human Research Ethics Committee, the Department of Education and Early Childhood Development (DEECD) and the Catholic Education Department.

Children as young as 6 and 7 years old experience body dissatisfaction. However, most of the research has only considered body image concerns in young girls. Young boys are often excluded on the assumption that they are less likely to experience body image concerns. However we now know that young boys experience body dissatisfaction almost at the same level as young girls. This study is looking at the ways that the media and peers influence boy’s body image. In doing so, this study will consider the processes which may be at play in the development of body dissatisfaction in children, such as the use of social comparisons, internalisation of the beauty ideal and gender-norms. As the ages of 8 to 10 are particularly significant for the development of body image concerns, we would like to focus on children...
from grades three and four. Although the focus of the study is on boys, girls will also be included as it is important to see if there are any gender differences.

21. Procedures

Your school is invited to take part in this research project which is being conducted with 6 primary schools across Melbourne and Regional Victoria. We would like to invite all the children from grades three and four from your school to participate. If you give your consent, you will be required to sign an organisational consent form which is located at the end of this brochure. We will supply you with plain languages brochures and consent forms which can be sent home to the parents of grade three and four children.

Participation will involve the children complete a multiple choice questionnaire which will be broken into two 20-30 minute sessions with a 15-20 minute break in the middle to stretch and play a class game at their desks. The questions will be read out aloud by the researchers. An additional research assistant (or two, as required) will be in the classroom to assist.

We will ask children questions regarding their peers, the media, feelings in relation to the way they look, their use of body change strategies, their use of social comparisons and their feelings about sports and exercise. The children will be instructed to complete their questionnaire privately and that they may stop the questionnaire at any time if they do not wish to continue.

Once the children finish their questionnaire, their height and weight will be measured behind a privacy screen by the researcher. This will be made optional to the children, and parent consent will be obtained. In addition, we will also fit in with the ethos of your school and we will not conduct this part of the study if you do not wish for us to do so.

Children who do not want to participate, or do not have parental consent will be instructed to continue with another class activity. When the study is complete, the researcher will explain to the children, in more detail (in age appropriate language), what the study is about and why their participation was needed and what they should do if any of the questions made them feel upset.

Names will not be recorded; therefore the questionnaires will be anonymous once they are collected. The questionnaires will be kept in a secure place in the School of Psychology at Deakin University for a minimum of ten years. An experienced member of the research team (with a current working with children check) will visit the school to conduct the study. We would like to work closely with you and your staff to negotiate a time that is most convenient and ensures minimal disruption.

4. Possible Benefits

There is no specific benefit to the individual, however the overall benefit associated with this research will be the contribution made to our knowledge of how children’s body image concerns develop with sights to developing strategies for their prevention. In previous studies conducted by Associate Professor Lina Ricciardelli, children generally have found the experience fun and have been excited about the opportunity to work with a researcher and share their opinions on topics which are familiar and important to them.
5. Possible Risks

No physical or emotional risks are anticipated; however the questionnaires will include some personal questions relating to body image which may raise children’s awareness of their body image and that of friends. However, we have found that a lot of children are already concerned with body image and are aware of the messages given out by the media and other sources in their daily environment. The questions are worded in a sensitive way as we want to help promote children’s healthy body image and social development. If children become distressed they will be instructed to stop the questionnaire immediately. The researcher has been trained in counselling psychology and has had experience in conducting research with children on this topic. Therefore the researcher will respond to any immediate distress arising from the questionnaire and also provide children, teachers and parents with details for where they can get further assistance. Also, we will contact the school counsellor who will be fully informed about the study.

6. Privacy, Confidentiality and Disclosure of Information

Names will not be recorded; therefore the questionnaires will be anonymous once they are collected. The questionnaires will be kept in a secure place in the School of Psychology at Deakin University for a minimum of ten years, and then will be disposed of in a confidential bin disposal in the School of Psychology at Deakin.

7. Results of Project

The school will be provided with a copy of the report once the study is complete.

8. Participation is Voluntary

Participation in this program is voluntary; your decision about whether your school takes part or not, or take part and then later withdraw, will not affect your relationship with Deakin University in any way. Before you make your decision you can ask a member of the research team for any information you want. Sign the consent form only after you have had a chance to ask your questions and have received satisfactory answers. If you give permission for your school to participate in the study, you will be required to sign the organisational consent form attached at the end of this document.

With your consent, parents will receive a letter of invitation, a plain language statement outlining the details of the study and a consent form which they can return to the school if they wish to allow their child the opportunity to participate. Children will also be invited to participate on the day and they will be allowed to continue with another classroom activity if they do not wish to take part or continue with any aspect of the study.

9. Ethical Guidelines

This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies. The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University, the Department of Education and Early Childhood Development (DEECD) and the Catholic Education Department.
10. Complaints

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact: The Manager, Office of Research Integrity, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581; research-ethics@deakin.edu.au. Project Number EC: 2012-021.

11. Further Information, Queries or Any Problems

Should you require any further information, please do not hesitate to contact either of the researchers; Gemma Tatangelo (W): 9251 7235, Lina Ricciardelli (W): 9244 6866.

If you have any concerns about the conduct of this research project, please contact the Secretary, Ethics Committee, Research Services Division, Deakin University, 221 Burwood Highway, BURWOOD VIC 3125. Tel (03) 9251 7123 (International +61 3 9251 7123).
Appendix P: Consent form for Principals for Study 2

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO:

Organisational Consent Form

Date:

Full Project Title: The Influence of Peers and the Media on Children’s Body Image

I have read and I understand the attached Plain Language Statement.

I give my permission for students from grades 3 and 4 of ...........Primary School to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement to keep.

The researcher has agreed not to reveal the participants’ identities and personal details if information about this project is published or presented in any public form.

I agree that

1. The institution/organisation MAY / MAY NOT be named in research publications or other publicity without prior agreement.

2. I / We DO / DO NOT require an opportunity to check the factual accuracy of the research findings related to the institution/organisation.

3. I / We EXPECT / DO NOT EXPECT to receive a copy of the research findings or publications.

Name of person giving consent (printed)  ........................................................................

Signature ............................................................................................................. Date .........................
Appendix Q: Cover Letter and Plain Language Statement for Parents for Study 2

Dear Parent/Guardian,

We would like to invite your child to participate in this research project which is being conducted by Gemma Tatangelo and Professor Lina Ricciardelli of the School of Psychology at Deakin University.

Positive body image in childhood is important for healthy social and emotional development. This study is looking at how the media and peers influence the development of children’s body image.

We are inviting children from grades 3 and 4 to participate in this research. Participation involves children to complete a once-off questionnaire which would take no longer than 1 hour (including a 10 minute break in the middle).

This project has received approval from the Deakin Human Research Ethics Committee and the Department of Education and Early Childhood Development (DEECD).

Please find enclosed with this letter:
− The Plain Language brochure detailing the research project and your rights as a participant so that you can make an informed decision about whether to participate in the evaluation of this study.
− The Consent form for your child’s participation in this study.

Participation in assessment of this program is voluntary; you and/or your child are not obliged to take part if you do not wish to. Your decision about whether your child takes part or not, or take part and then later withdraw, will not affect your relationship with your child’s school or with Deakin University in any way.

If you give permission for your child to participate in the study, please complete and sign the enclosed Consent form and return it to the school. Your child’s participation will be greatly appreciated.
Children will also be invited to participate on the day and they will be offered to go back to their classroom if they do not wish to take part or continue with any aspect of the study.

Kind Regards,

Gemma Tatangelo
Associate Professor Lina Ricciardelli

To: Parents and Guardians
22. Consent
This Plain Language Statement contains information about the research project. Its purpose is to clearly explain all the procedures involved so that you can make an informed decision about whether your child shall participate. Feel free to ask questions about any information in the document. You may also discuss the project with a friend or your local health worker. Once you understand the project and if you agree for your child to take part, you can sign the consent form attached. By signing the consent form you indicate that you understand the information and that you give your consent for your child to participate in the project.

23. Purpose and Background
This study looks at the ways that the media and peers influence children’s image. It will consider the processes at play in the development of body image in children, such as the use of social comparisons and internalisation of appearance and gender ideals seen in the media. As the ages of 8-10 are significant for the onset of body image concerns, we would like to focus on children from grades 3 and 4. This project is conducted by Professor Lina Ricciardelli and Miss Gemma Tatangelo of the School of Psychology at Deakin University. It will form part of Miss Tatangelo’s PhD thesis.

24. Procedure
Your school is participating in this project which is being conducted with 10 primary schools across Melbourne and Victoria. We would like to invite children from grades 3 and 4 to participate. Participation will involve children complete a questionnaire which will take less than one hour to complete (including a 10 minute break). The researcher (with a current working with children check) will visit the school to conduct the study. The researcher will explain to the children, what the study is about and why their participation is needed.

Questions cover topics including; the media, friends, dieting, sports, exercise, their appearance and their use of social comparisons. For example, some questions include: ‘I like what I look like in photos’; ‘I wish I had more muscles’; ‘Most sports are easy for me’; ‘Do any of your friends exercise to lose weight?’ (Answered: ‘Yes’, ‘In Between’ or ‘No’).

4. Possible Benefits
The overall benefit associated with this research will be the contribution made to our knowledge of children’s body image concerns with sights to developing programs for
their prevention. In previous studies conducted by Professor Lina Ricciardelli, children generally have found the experience fun and have been excited about the opportunity to work with a researcher and share their opinions on topics which are familiar and important to them.

5. Possible Risks

No physical or emotional risks are anticipated. The questionnaire includes some questions relating to body image which may raise children’s awareness of their body image. However, we have found that children are generally already aware of body image and messages given out by the media and their peers. The questions are worded in a sensitive way as we want to promote children’s positive body image. However, if any child becomes distressed they will be instructed to stop the questionnaire immediately. The researcher will respond to any immediate distress and provide children, teachers and parents with details for further help.

6. Privacy, Confidentiality and Disclosure of Information

Names will not be recorded; therefore the questionnaires will be anonymous. The questionnaires will be kept in a secure place in the School of Psychology at Deakin for a minimum of ten years and then will be disposed of in a confidential bin disposal.

7. Results of Project

Your school will be provided with a copy of the report once the study is complete.

8. Participation is Voluntary

Participation in this program is voluntary. Your decision about whether your child takes part or not, or take part and then withdraw, will not affect your relationship with Deakin University or your child’s school. Feel free to contact a member of the research team with any questions. If you give permission for your child to participate, please sign the attached consent form. Sign the consent form only after you have received satisfactory answers to any questions you have. With your consent, your child will also be invited to participate. If they do not wish to take part in the study, they will be given another classroom activity.

9. Ethical Guidelines

This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate. The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University and the Department of Education and Early Childhood Development.

10. Complaints

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, you may contact: The Manager, Office of Research Integrity, Deakin University, 221 Burwood Highway, Burwood Victoria 3125, Telephone: 9251 7129, Facsimile: 9244 6581; research-ethics@deakin.edu.au. Project Number EC: 2012-021
11. Further Information, Queries or Any Problems

If you require further information, please do not hesitate to contact either of the researchers; Gemma Tatangelo (W): 9251 7235, Lina Ricciardelli (W): 9244 6866. If you have any concerns about the conduct of this research project, please contact the Secretary, Ethics Committee, Research Services Division, Deakin University, 221 Burwood Highway, BURWOOD VIC 3125. Tel (03) 9251 7123
Appendix R: Consent form for Parents for Study 2

TO:  Parents and Guardians

<table>
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<th>Third Party Consent Form</th>
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**Date:**

**Full Project Title:** The Influence of Peers and the Media on Children’s Body Image

I have read and I understand the attached Plain Language Statement.

I give my permission for ________________________________ (name of participant) to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement to keep.

The researcher has agreed not to reveal my child’s identity and personal details if information about this project is published or presented in any public form.

Participant’s Name (printed) ________________________________

Name of Person giving Consent (printed) ________________________________

Relationship to Participant: ________________________________

Signature __________________ Date ______________
Appendix S: Cover Letter for Questionnaire Study 2

My name is Gemma Tatangelo and I am inviting you to take part in a project which I am doing with my teacher at Deakin University. As part of the project we are trying to help children to feel better about themselves and the way they look.

This booklet has questions for you to answer. They are easy questions about your friends at school, sports and some questions about the way you look. This is not a test. There are no right or wrong answers. We would just like to know what you think. It will take just over an hour to do, but you will have a break in the middle.

Your parents have given their permission for you to do the questions. Are you happy to do the questions? If you do not want to that is OK, and you can go back to your classroom.

If any of the questions make you upset you do not have to answer them. You can stop doing the questions if at any time if you feel like they are upsetting you. You can also talk to your parents, the school counsellor or call kids help line about any of the topics that you are worried about.

You do not have to put your name on this booklet. That means your answers will be anonymous once we have collected them. If it is ok with you, we will also measure your height and weight. We will do this in private where only the researchers can see. You do not have to do this if you don’t want to.

Do you have any questions?

Age:

Class:
Perceived Sports Competence (Same items for boys and girls)
Children to answer by circling an option: No In Between Yes

1. I do lots of sports, exercise and physical activities
2. I exercise or play hard enough to breathe hard (to huff and puff) many times a week
3. I would do well in a test of physical fitness
4. I do sports, exercise, dance or physical activities almost every day
5. I have good sports skills
6. Other people think that I am good at sports
7. I am better at sport than most of my friends
8. Most sports are easy for me
9. I am weak and have no muscles
10. I would do well in a test of strength
11. I am physically a strong person
12. I have lots of strength in my body
13. I can run a long way without stopping
14. I think I could run a long way without getting tried
15. I can play sport or do exercise for a long period of time without getting tired
16. I do exercise or activities that make me huff and puff for at least 30 minutes three or four times a week

Body Esteem Items (Same items for boys and girls)
Children to answer by circling an option: No In Between Yes

1. I like what I look like in photos
2. Kids my own age like my looks
3. I am pretty happy about the way I look
4. Most people have a nicer body than I do
5. My weight makes me happy
6. I like what I see in the mirror
7. I wish I was thinner
8. I really like my muscles
9. There are things I would change about my body if I could
10. I’m proud of my body
11. I really like what I weigh
12. I wish I looked better
13. I often feel ashamed of how I look
14. Other people make fun of the way I look
15. I think I have a good body
16. I’m proud of my muscles
17. I’m looking as nice as I’d like to
18. I often wish I looked like someone else
19. My looks upset me
20. I think I have good muscles
21. I’m as nice looking as most people
22. My parents like my looks
23. I worry about the way I look
24. I wish I had more muscles

Internalisation Items for Girls

Children to answer by circling an option:   No   In Between   Yes

1. Music videos that show thin women make me wish I were thin
2. I would like to look like the models in the magazines
3. I tend to compare my body to people in magazines
4. Photographs of thin women make me wish I were thin
5. I wish I looked like a model
6. I often compare my appearance to the models in the magazine

Internalisation Items for Boys

Children to answer by circling an option:   No   In Between   Yes

1. I wish I looked more muscular, like a footballer
2. Sports that show muscular men make me wish I was more muscular
3. I wish I had a fitter body like my favourite sportsman
4. Photographs of fitter men make me wish I was more fit
5. I would like to have a fit looking body shape
6. Photographs of muscular men make me wish I were muscular
**Feminine Gender Ideal Items for Girls**

Children to answer by circling an option:  No  In Between  Yes

1. It is important for girls to always look attractive
2. It would be embarrassing for a girl if she was bigger than most boys her age
3. It would be embarrassing for a girl, if most boys were more neat and tidy than she was
4. It is important for girls to dress nicely
5. Girls should make sure their hair always looks nice
6. Girls shouldn’t get dirty and messy playing sports at lunchtime
7. To be popular, girls need to be pretty

**Masculine Gender Ideal Items for Boys**

Children to answer by circling an option:  No  In Between  Yes

1. It is important for boys to be able to physically defend themselves.
2. To be popular, boys need to be good at sports.
3. It would be embarrassing for a boy if most girls could run faster than he could.
4. It is important for boys to look like they are good at sports.
5. Boys should be able to lift heavy things.
6. Boys should be able to throw a ball farther than most girls can.
7. It would be embarrassing if a girl could beat up a boy.

**Peer Influences (Same Items for girls and boys)**

Children to answer by circling an option:  No  In Between  Yes

1. Do your friends ever give you the idea you need to lose weight?
2. Do your friends ever give you the idea you need to gain muscle?
3. Do your friends give you the idea you need to be fitter?
4. Do any of your friends try to lose weight?
5. Do any of your friends try to gain muscle?
6. Do your friends try to get fitter?
**Actor Media Items for Girls**

Children to answer by circling an option: No  In Between  Yes

1. Do singers/actresses give you the idea you need to lose weight?
2. Do singers/actresses give you the idea you need to gain muscle?
3. Do singers/actresses give you the idea you should be fitter?
4. Do you think singers/actresses try to lose weight?
5. Do you think singers/actresses try to gain muscle?
6. Do singers/actresses try to get fitter?

**Actor Media Items for Boys**

Children to answer by circling an option: No  In Between  Yes

1. Do singers/actors give you the idea you need to lose weight?
2. Do singers/actors give you the idea you need to gain muscle?
3. Do singers/actors give you the idea you should be fitter?
4. Do you think singers/actors try to lose weight?
5. Do you think singers/actors try to gain muscle?
6. Do singers/actors try to get fitter?

**Sports Media Items for Girls**

Children to answer by circling an option: No  In Between  Yes

1. Do sportswomen give you the idea you need to lose weight?
2. Do sportswomen give you the idea you need to gain muscle?
3. Do sportswomen give you the idea you need to be fitter?
4. Do you think sportswomen try to lose weight?
5. Do you think sportswomen exercise to gain muscle?
6. Do you think sportswomen try to be fitter?

**Sports Media Items for Boys**

Children to answer by circling an option: No  In Between  Yes

1. Do sportsmen give you the idea you need to lose weight?
2. Do sportsmen give you the idea you need to gain muscle?
3. Do sportsmen give you the idea you need to be fitter?
4. Do you think sportsmen try to lose weight?
5. Do you think sportsmen exercise to gain muscle?
6. Do you think sportsmen try to be fitter?

**Social Comparisons with Peers (Same Items for girls and boys)**

Children to answer by circling an option: Never Sometimes Often

1. Do you think about how **fit** you are in comparison to other children your age?
2. Do you think about how **muscular** you are in comparison to other children your age?
3. Do you think about your **body weight** in comparison to other children your age?

**Social Comparisons with Actor Media for Girls**

Children to answer by circling an option: Never Sometimes Often

1. Do you think about your **body weight** in comparison to your favourite actress or singer?
2. Do you think about how **fit** you are in comparison to your favourite actress or singer?
3. Do you think about how **muscular** you are in comparison to your favourite actress or singer?

**Social Comparisons with Actor Media for Boys**

Children to answer by circling an option: Never Sometimes Often

1. Do you think about your **body weight** in comparison to your favourite actor or singer?
2. Do you think about how **fit** you are in comparison to your favourite actor or singer?
3. Do you think about how **muscular** you are in comparison to your favourite actor or singer?

**Social Comparisons with Sports Media for Girls**

Children to answer by circling an option: Never Sometimes Often

1. Do you think about your **body weight** in comparison to your favourite sportswoman?
2. Do you think about how **fit** you are in comparison to your favourite sportswoman?
3. Do you think about **how muscular** you are in comparison to your favourite sportswoman?

**Social Comparisons with Sports Media for Boys**

Children to answer by circling an option: Never Sometimes Often

1. Do you think about your **body weight** in comparison to your favourite sportsmen?
2. Do you think about how **fit** you are in comparison to your favourite sportsmen?
3. Do you think about **how muscular** you are in comparison to your favourite sportsmen?

**Body Change Items (Same Items for girls and boys)**

Children to answer by circling an option: Never Sometimes Often

1. How often do you think about changing your eating to lose weight?
2. How often do you change your eating to lose weight?
3. How often do you think about exercising to lose weight?
4. How often do you exercise to lose weight?
5. How often do you think about eating to increase your muscles?
6. How often do you eat special foods to increase your muscles?
7. How often do you think about exercising to increase your muscles?
8. How often do you exercise to increase your muscles?