BODY IMAGE AND ITS IMPACT IN SELECTED GROUPS OF MEN

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ABSTRACT

This thesis examined the relationship between body image and Psychological Distress in three groups of men: bodybuilders, elite Australian Rules football players and a control group who did not participate in any elite level sports. The main objective was to examine the extent that body form and body function are related to Muscle Dysmorphia, Body Esteem and Psychological Distress in groups where physique is important for either body form or body function reasons. The results of a quantitative study showed that (a) having a distorted self-perception of being less muscular was associated with more negative body feelings; (b) body dissatisfaction was related to body perception distortion; and (c) the control group, who expressed less Muscle Dysmorphia than the footballers and bodybuilders, had generally negative body images, whereas the footballers and bodybuilders had both positive and negative aspects incorporated into their body images. Surprisingly, no significant relationships between the other measures of body image (body dissatisfaction, body perception distortion and Body Esteem) and Muscle Dysmorphia were found. However, a further qualitative study using thematic analysis suggested that men from each of the participant groups did in fact have some symptoms of Muscle Dysmorphia, and that there were psychological and behavioural consequences of this, but that a masculine culture within Australian Rules football and the psycho-protective effect of exercise appeared to have some prophylactic effect. Overall, these results suggest that, in groups of men who train for either body form or body function reasons, the relationship between perceived body image and how it is expressed in behavioural, emotional and cognitive terms is complex.
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DECLARATION

I declare that this thesis contains no material which has been accepted for the award of any other degree or diploma, except where due reference is made in the text. To the best of my knowledge, this thesis contains no material previously published or written by another except where due reference is made in the text. I declare that the ethical principles of the Australian Psychological Society and the codes, guidelines and principles of Swinburne University of Technology in relation to research have been adhered to during the course of this research project.

Name: _________________________________

Date: _________________________________
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CHAPTER 1: INTRODUCTION

1.1 Overview

Much research has been invested into illuminating the body image concerns and negative consequences of poor body image in women and girls (e.g. Garner, Garfinkel, Schwartz & Thompson, 1980; Garner & Garfinkel, 1980; Henriques & Calhoun, 1999). The impact of body image related eating disorders on women and associated psychological disturbances is well documented, interventions have been developed and outreach educational programmes implemented (Varnado-Sullivan, Zucker, Williamson, Reas, Thaw & Netemeyer, 2001; Matusek, Wendt & Wiseman, 2004). In this new era of increased awareness of gender equity, more appearance-oriented products are being marketed to men and more media images of lean muscular male models are being used to target both men and women. *The Adonis Complex* (Pope, Phillips & Olivardia, 2000), exploring male-centric body image, dedicated a whole section to the use of objectified male images in the media (pp. 54-60). Consequently, awareness that men too have significant concerns over their body image has surfaced (Raudenbush & Zeller, 1997; Muth & Cash, 1997).

Researchers have set out to investigate the relationship between negative body image and psychological disturbance in both genders. Studies that have examined negative symptoms via the use of various self-report methods have shown that whilst a negative body image is associated with lower self-esteem (Wade & Cooper, 1999; Henriques & Calhoun, 1999; Furnham & Greaves, 1994) and greater depression scores (Koenig & Wasserman, 1995; Santor, Ramsey & Zuroff, 1994), women have tended to show more serious symptoms than men. These studies concluded that negative body image had more of a psychological impact on women than men.

Although the symptoms measured by self-report and reported above may be more severe in women than men, qualitatively different research paints another picture. Men are not universally happy with their body shape and this dissatisfaction is not necessarily to do with being fat and striving for thinness (Pope *et al.*, 2000). They can be preoccupied with their degree of muscularity and bulk. Studies by Connan (1998),
Pope, Gruber, Choi, Olivardia and Phillips (1997) and Loosemore, Mable, Galgan and Balance (1989) are representative of a number of papers identifying body image problems in male bodybuilders and those caught up in the ‘gym culture’. Examples of maladaptive and potentially destructive behaviours practised by those men who strived to be bigger, leaner and more muscular included extreme dieting, binge eating, excessive exercising and abuse of steroids. Many even exhibited a distortion of body perception, believing they were much smaller and weaker than they actually were (Pope, Katz & Hudson, 1993; Pope et al., 1997, Loosemore et al., 1989). These behaviours have also been identified in other subgroups of men, including gymnasts (Drummond, 1999) and wrestlers (Pope et al., 2000).

The poor body image apparent in these men who strived for muscularity did not only result in unhealthy behaviours and distorted body perceptions. Bodybuilders and others involved in the gym culture who suffered poor body image were also found to experience psychological dysfunction such as poor self-esteem, subjective distress and impaired social and occupational functioning (Pope et al., 1997; Connan 1998; O’Sullivan & Tiggemann, 1997). Adolescent boys have also been seen to express as much unhappiness with their bodies as girls and this can lead to low self-esteem and depression (Pope et al., 2000; Paxton, 1999). These findings suggest that men do indeed show Psychological Distress associated with poor body image when specific groups are looked at, and thus what appear to be differences between men and women may not be so much whether they can have a poor body image, but what particular groups are susceptible to having high rates of poor body image and how the factors that cause this may differ across groups.

Previous studies that have identified men who develop body image disorders have done so in very specific male groups rather than large populations (Pope et al., 1993, 1997, 2000). Looking at these groups more closely shows a division between two types of physical pursuits: those who are constructing a body to look a certain way such as weight trainers and bodybuilders (Connan, 1998; Pope et al., 1997; Loosemore et al., 1997), and those whose bodies are being ‘perfected’ to enhance physical performance such as gymnasts (Drummond, 1999) and wrestlers (Pope et al., 2000). Based on differences between these groups, two main factors have been identified that are known
to increase the risk of developing body disorders and are therefore useful in helping identify at-risk groups: aesthetic appearance (form) where people either make their living or have strong social pressure to look certain ways; and athletic performance (function) where people need certain attributes such as strength and endurance to improve their physical performance for sport or other physically demanding lifestyles (Morrison, Morrison & Hopkins, 2003).

Although both body form and body function motivations can lead men to become focussed on their physiques to the point of body image disturbance, questions arise as to whether one is a more potent source of such disturbance and more associated with Psychological Distress. With careful selection, it should be possible to examine this by comparing and contrasting two groups: one that pursues an aesthetically pleasing body and one that pursues an ideally performing body.

With regard to a group that values physical form, it would make sense that men whose pursuits, either professionally or recreationally, required scrutiny of their physiques such as bodybuilders would be under pressure to first gain and then maintain such physiques. As such, bodybuilders would be a good choice to represent men whose physical training is in aid of creating an ideal male physical form.

With regard to choosing a group that values physical functioning, sportsmen are the obvious choice, but which sport? Professional athletes can earn large amounts of money and fame and their bodies need to be in peak functional condition to consistently perform at the high levels required. Men who aim to be or are elite athletes would need to adopt a vigilant attitude to their physique, fitness, size, strength etc. The emergence of glamour marketing for sports using images of athletes such as the Dieux du Stade French rugby calendars, however, means that elite athletes’ physiques are scrutinised at a functional and aesthetic level and are often in the public arena.

In Australia one of the most high profile and highly paid sports for men is Australian Rules football. Players pursuing the elite level of this sport may be good candidates for the group representing men who strive to attain the ideal physique for physical functioning reasons. Although the sport does have glamorised marketing,
which will be discussed later in this chapter, the focus of physical training is more around performance rather than aesthetics.

Based on the idea that the body related expectations of different groups may differ on variables such as form and function, it makes sense to examine specific groups where these variables are important. Thus, rather than polling a general male population and concluding that body image has no psychological impact or investment for males, we may be better served by examining specific subgroups where the structure of their physique has an invested importance for them either functionally or aesthetically.

1.2 Male Physique and the Media

The relationship between the media and body image has often been a double-edged sword. Media advertising and commentators can be seen to both enlighten and perpetuate issues of body image. It is not rare to see an article on the promotion of the beauty of all-sized female figures alongside a fashion spread utilising thin smaller-sized models. In a rather contemporary trend this same contradictory media tendency is now emerging for the male gender. Examples can be seen in the growing popularity of men’s fitness and physique oriented magazines, many which profess that using their training and diet tips will lead to the perfect lean yet muscular build and that this build has many benefits including improved virility. *Australian Men’s Health* is a prime example. The contents of the magazine are predominately advice on improving one’s physique or sex life. The October 2008 issue is a good example, containing cover captions such as ‘Get fit fast – the amazing one-hour work out’, ‘8 classic muscle moves’ and ‘Eat spaghetti bolognaise & still lose weight’. The issue also claimed it was now officially Australia’s no. 1 men’s lifestyle magazine.

*The Adonis Complex* (Pope et al., 2000) describes the many aspects of media and marketing that have influenced recent generations of men and boys to become body-obsessed. Pope, who was instrumental in discovering a male oriented body image disorder named Muscle Dysmorphia where large muscular men strive to be bigger yet perceive themselves to be small and weak looking (Pope et al., 1997), describes in this book a more general male body image term, the Adonis Complex. This involves the
desperate desire to achieve the ‘perfect’ appearance of a muscular lean body shape but could also include aspects of the face, hair, genitals, body hair and height. This complex is characterised by obsessive-compulsive behaviours, distorted self-perception, social and occupational dysfunction and associated negative affect and self-concept.

Pope’s book describes many aspects of marketing and media that have influenced an increasing awareness of an idealised male physique. His case begins by pointing out the increasing muscle size of bodybuilders used in many advertisements whose Fat Free Muscle Mass (FFMM) is observed to be beyond that which is naturally attainable (pp. 34-5). This suggests that if men or boys are using these images as aspirational yardsticks for their own bodies, then they are chasing a goal that is only possible via the use of anabolic androgenic steroids, therefore unattainable through natural training techniques. He has also noted that the muscular shapes of superheroes in cartoons and action figures are warped beyond that which is naturally or even unnaturally attainable (pp. 40-4) and questions what affect this has on ‘hero-worshipping’ young boys. He concludes by providing many and varied examples of the increased musculature of male models being used to promote everything from fragrance to mobile phones and alcohol (pp. 54-60). Pope speculates about what impact these media promoted hyper-muscular male physiques may be having on men and boys, but research has already attempted to answer this question.

Researchers have begun to explore the nature of idealised images of the male physique and consequently the effect that exposure to these images has on men. Pope with Leit and Gray (1999) first reported that over time the idealised bodies of male models in marketing and the media were becoming musculearly larger. One source of evidence was that the male centrefolds in Playgirl magazines have been getting larger and muscular over the 25 years of the publication, perhaps indicating a shift in what women desired towards a larger male physique. In a subsequent article, Leit and Gray (2001) explored the effect that exposure to idealised male media images has on young men. They found that college aged males, after viewing advertisements using muscular male images, reported a greater discrepancy between their self-perceived muscularity and their ideal muscularity on a computerised test, as compared to those viewing neutral advertisements., It led them to feel less muscular and desiring to be more muscular than
they otherwise would. This adds to evidence from other studies that have found that exposure to various media related idealised images of the male physique have led to lower self-esteem (Grogan, Williams & Connor, 1996; Barlett, Vowels & Saucier, 2008), feelings of body dissatisfaction and disordered eating patterns (Morry & Staska, 2001; Vartanian, Giant & Passino, 2001; Barlett et al., 2008; Agliata & Tantleff-Dunn, 2004) and an increased drive to become more muscular (Morrison, Morrison & Hopkins, 2003; Daniel & Bridges, 2010).

Irony would have it that there has also been an increase in coverage of the portrayal of men in advertising and the media and the pressure now on men to achieve the body beautiful. The now defunct Melbourne Express ran, on 23 May 2001, an article from the London Telegraph by Rachel Cooke where she postulates: are men the new women? She refers to the new trend of everyday British men spending big at cosmetics counters and attending day spas. She quotes a co-founder of an all-male day spa, ‘our clients realise that there is a link between how they feel and how they look.’ It is inferred that looking and feeling better lead to performing better at work. Cooke also quotes a feminist writer, Susan Faludi, who believes that the shift from the industrial age to the so-called information age has helped form a new vision of what it is to be a man. She suggested that it is no longer based on work and brawn but what you can buy and put on your body to improve your manhood. She dubs this ornamental manhood. In the October 22 2000 edition of the Sunday Age: Sunday Life magazine, Michelle Griffin discusses what it is to be a man these days. Needless to say, putting more effort into appearance including a more muscular physique is part of the new man. Being a consumer of beauty products and clothes consciousness are also part. She adds that heterosexual men are now adapting the same desire for the body beautiful that has long been part of gay culture, including the associated ‘gay anxieties’. The following Sunday, the same magazine ran an article by Paula Goodyer, covering the phenomenon of male body image and eating disorders in boys and men. The link between the increase of undressed males in advertising and increased body dissatisfaction in men is quite clearly made. Self-harm behaviours performed by boys and men such as binging and purging, excessive dieting and exercising and steroid use in the pursuit of a leaner and more built body were also discussed. An important point made was that a defined
six-pack stomach may no longer be the epitome of good health, but rather a healthy positive body image may be.

Evidence has been presented thus far in this section to suggest that media images of the male physique have been becoming increasingly and unrealistically leaner and more hyper-muscular. Also evident is that the increasing use of objectified images of male bodies by the media can have an impact on males who are exposed to them. Finally, examples of the media’s recognition of the pressure on men’s body image arising from the emergence of appearance related marketing to men were presented. The most recent step in the media’s relationship with male body image came in the form of reports on male specific body image disorders. The 2000 release of The Adonis Complex received quite a degree of press. On May 18 2000, the Courier Mail published an article by Peter Sheridan entitled ‘Big man syndrome’ reporting on the syndrome surrounding the condition Muscle Dysmorphia as described so well in Pope et al.’s book. A year later, the July 25 edition of the Melbourne Express printed an article by Rachel Shabi of the Guardian in London on the same subject. Both articles tell of the secret body obsession being experienced by increasing numbers of men, the pressures placed on them to conform to the beauty myth, the drive for increased musculature, and the depression, anxiety and lower self-esteem suffered by those experiencing Muscle Dysmorphia and the Adonis Complex. Thus the media can be seen as both perpetuating male body image disorders and of increasing awareness of the problems and although the media has caught on to the notion of male specific body image disorders, which it may in part be responsible for, there is still conjecture amongst research as to whether males do indeed suffer Psychological Distress related to poor body image, as the next section will discuss.

1.3 Men, Body Image and Psychological Disturbance

As was introduced in the overview, several studies examining Psychological Distress associated with body image in both genders concluded there was a strong association in females but not in males. An increasing number of researchers are investigating negative affect associated with poor body image. Santor, Ramsey and Zuroff (1994) examined the gender bias of the items in the Beck Depression Inventory
using depressed outpatients and non-patient college students as their participant groups. From both groups they found a bias in only one item, which happened to refer to distorted body image. This bias was more significant for the depressed outpatient group. It was concluded that females, clinical and non-clinical, were more affected by body distortion associated with depression. One limitation of this study is that the sample consisted of only college undergraduates and mental outpatients, and it therefore cannot be concluded that there is no link between body image and depression with men in general. A second limitation was that distortion of body image was measured by only one item (Item 14).

Apart from the study of Santor et al. (1994), other research has gone on to investigate gender differences in depression related to body image. Stice and Bearman (2001), for example, made the observation that depressive symptoms increase dramatically for girls relative to boys in early adolescence, a trend that continues through to adulthood and has been linked to issues of body image and eating disturbance. In particular, they showed that symptoms of disordered eating and poor body image were predictors of greater depressive symptoms in adolescent girls. They also suggested that the same would not be evident in young males as the onset of puberty triggers differentiation by sex role and leads boys to value independence and exploration over interpersonal relationships that can determine self-worth, as is typical in girls.

However, when it comes to adults, the gender division is not necessarily as definitive. Adults of both genders with a negative body image also report higher depression than those with a positive body image, although only women showed that disordered eating variability was related to depression (Koenig & Wasserman, 1995). In this study, disordered eating was seen to be a product of ‘negative body image’ and ‘high importance of body image’, thus leading to the conclusion that women are more impacted by body image associated depression. While there was a gender difference here, there was also some evidence of psychological impact due to poor body image in adults of both genders.
Moving beyond depression, the relationship body image has to other psychological consequences has also been investigated in both genders. When specifically looking at gender differences in these relationships, similar conclusions to those involving depression have been made. Self-perceived attractiveness has been found to have cognitive and affective relationships to the body for women but not for men (Wade and Cooper, 1999). In addition, self-esteem has been found to have an affective relationship to the body for women only (Wade & Cooper, 1999; Furnham & Graves, 1994). Much like the research into body image and depression, these gender differences were found in participant groups made up of the general population.

Not all research investigating the psychological impacts of body image using college students or the general population found a gender discrepancy, however. In contrast to the above research, other studies have indeed concluded that college men are impacted psychologically by poor body image. Contradicting the findings of Santor, Ramsey and Zuroff (1994) who found a gender bias on the Beck Depression Inventory item associated with distorted body image, one study found that experimentally lowered mood led female college students to wish to be lighter and male college students to wish to be heavier (Barber, 2001). This suggests that unhappiness could invoke a comparison with a gender stereotype of physical attractiveness for both genders. Male college students have also been found to have a relationship between muscle dissatisfaction (but not body dissatisfaction) and higher depression, lower self-esteem and less life satisfaction (Cafri, Strauss & Thompson, 2002). Furthermore, for male college students, social physique anxiety, or negative feelings of body judgement for others in social situations, was associated with valuing muscularity and body self-evaluation (Martin, Kilber, Hodges-Kulina & Fahlman, 2006), as well as body dissatisfaction and self-esteem (Russell, 2002). So the evidence about gender and body image related Psychological Distress in general or college populations is inconsistent, as some say males are not affected by Psychological Distress, while others clearly show they are affected. It is interesting to note that the studies reporting psychological impact on men are much more recent than those that do not.

While research investigating the psychological impact of poor body image in general populations of males and females has resulted in inconsistent and contradictory
evidence, research conducted on more specific groups of men has proven much more consistent. Those who participate in body-building or are entrenched in the gym culture and who experience poor body image also express low-self esteem, subjective distress, depression, anxiety and impaired social and work lives (Pope et al., 2000, 1997; Connan, 1998; O’Sullivan & Tiggemann, 1997; McFarland & Kaminski, 2009; Mellor, Fuller-Tyszkiewicz, McCabe & Ricciardelli, 2010). Also, when looking at men who participate competitively in sports where the composition of their bodies is instrumental in aiding the quality of their performances, such as Olympic style wrestlers (Pope et al., 2000, pp. 184-7) and gymnasts (Drummond, 1999), body obsession has been found to be associated with feelings of anger, fatigue, depression, anxiety, isolation and behaviours such as disordered eating. So it seems that when investigating men who have some investment in their bodies, and perhaps musculature, poor body image is more likely to have a psychological impact on them.

1.4 Men and Muscle: Muscle Dysmorphia

Media representations of the male physique over the last few decades are becoming increasingly muscular (Pope et al., 2000; Leit, Gray & Pope, 1999, 2001) and research is showing that men are starting to become dissatisfied with their bodies (Mintz & Betz, 1986; McCaulay, Mintz & Glenn, 1988; Drewnowski & Yee, 1987). Unlike women, men’s body dissatisfaction is drawn from a desire to be bigger and more muscular (O’Sullivan & Tiggemann, 1997; Pope et al., 2000; Tantleff-Dunn, 2000, 2001; Pope, Gruber, Mangweth & Bureau, 2000; Boroughs & Thompson, 2001; Olivardia, 2001). A review of the literature led Mishkind, Rodin, Silberstein, and Streigel-Moore (1986) to conclude that there are ‘deeply entrenched’ cultural preferences, by both men and women, for the mesomorphic (muscular) ideal body shape, and aversions to endomorphic (fat) and ectomorphic (thin) male body shapes.

Perhaps unsurprisingly, during this period a body image disorder more prominent in males emerged which centres on an obsessive drive for increased musculature, called Muscle Dysmorphia (Olivardia, 2001; Grieve, Truba & Bowersox, 2009). The term was coined in 1997 as a form of Body Dysmorphia formally referred to as ‘Reverse Anorexia’ or ‘Bigorexia’. The phenomenon has been the topic of a number
of subsequent studies (Phillips, O’Sullivan & Pope, 1997; Pope, Gruber, Choi, Olivardia & Phillips, 1997; Hitzeroth, Wessels, Zungu-Dirwayi, Oosthuizen & Stein, 2001). With regard to the scope of this disorder, Olivardia (2001) found that 53% of their sample of amateur bodybuilders met the diagnostic criteria for Body Dysmorphia and thus concluding that this condition is a common and relevant entity. Olivardia lists the diagnostic criteria for Muscle Dysmorphia as follows:

A. Being preoccupied with the idea he or she is not sufficiently lean and muscular.

B. The preoccupation causes clinically significant distress or impairment in social, occupational or other important areas of functioning as demonstrated by at least two of the following areas:
   a. Frequently giving up important social, occupational or recreational activities because of a compulsive need to maintain his or her workout and diet schedule.
   b. Avoidance of situations in which his or her body is exposed to others, or endures such situations only with marked distress or intense anxiety.
   c. The preoccupation about the inadequacy of body size or musculature causes clinically significant distress or impairment in social, occupational or other important areas of functioning. The individual continues to work out, diet or use performance-enhancing substances despite knowledge of adverse physical or psychological consequences.

C. Primary focus of the preoccupation is with being too small or inadequately muscular, and not on being fat, as in anorexia nervosa, or on other aspects of the appearance, as in other forms of Body Dysmorphic Disorder.

As is the case with eating disorders, where individuals who exhibit tendencies towards symptoms but are not diagnosable are dubbed as having disordered eating, a range of men who train in gyms have been seen to show tendencies towards symptoms of Muscle Dysmorphia (O’Sullivan & Tiggemann, 1997; Pope et al., 2000). The present author’s study with Marika Tiggemann (1997) found that amongst a range of men who
train with weights, from the very casual to the very serious, 76% indicated some dissatisfaction with their body. Men generally underestimated their own musculosity and 75.9% felt uncomfortable showing their body in public either occasionally or frequently. When asked to choose their desired physique from a set of photographs that varied on musculosity, the physiques of the two most muscular examples were most commonly chosen. Most also responded that they experienced symptoms akin to those exhibited in Muscle Dysmorphia at least occasionally. Relationships to low self-esteem and low sense of masculinity were also identified in subjects with body dissatisfaction, and particularly in those with concerns about size and musculosity.

The above evidence would suggest that the locus of men’s appearance insecurities are more drawn from their perceived degree of musculosity rather than from any strive for thinness or disordered eating. This may be true even when the collective findings of research on general populations of men are inconclusive or even contradictory because when looking at men in the gym culture, who are exercising to improve musculature, more conclusive results on body image are found. To understand Body Dysmorphia, it is therefore important to identify groups of men who may have some investment in improving the musculature of their bodies, and then determine how this may or may not lead to being at risk of or to developing muscle dysmorphic or other body image disorders. Groups already identified as being at risk via the findings of empirical and clinical data include bodybuilders (Blouin & Goldfield, 1995; Hitzeroth et al., 2001; Mangweth, Pope, Kemmler, Ebenbichler, Hausmann, De Col, Freutner, Kinzl & Beibl, 2001; Thompson, on the web; Pope et al., 1993, 2000; Grieve et al., 2009), wrestlers (Pope et al., 2000), gymnasts (Drummond, 2002) and fitness trainers (Philips & Drummond, 2001).

In this study we considered the various physical pursuits of groups of men who had been identified as being at risk of poor body image and perhaps Muscle Dysmorphia, and noted two possible paths to developing the type of obsession or preoccupation that can lead to body image concerns. Thus, when selecting groups to investigate it was kept in mind these two alternate paths to body obsession. One is purely appearance based, with the focus of attention being on the way the body looks. The other is the physical function, with the focus placed on optimal physical
performance. Both can mean obsessing over body size or composition, training performance and diet, but for ultimately different reasons. We have seen that when men who train with weights are targeted for body image research, the results more consistently find psychological consequences of body dissatisfaction (Connan, 1998; Pope et al., 1997; O’Sullivan & Tiggemann, 1997). Weight or resistance training is usually practised to improve strength and muscularity. It has been documented that men who pursue a more muscular physique can do so for various reasons including both body form (attractiveness to women, looking masculine) and function (fitness and strength for sport and life) (Morrison, Morrison & Hopkins, 2003). So the obsessive physical pursuits of men who are immersed in the gym culture, who train with weights or are bodybuilders are done to build a physique of ideal proportions (Connan, 1998; Pope et al., 1997; Loosemore et al., 1997), and are therefore in essence more to do with the form of the body. Alternatively, body obsession born out of a need to achieve optimal physical performance, as is the case with sportsmen (Drummond, 1999; Pope et al., 2000), is more to do with the function of the body. Given these motivational differences it is of great interest to investigate the nature of body image, and the possibility of psychological consequences of poor body image, in a group that aspires to an ideal body for form reasons and another that aspires to an ideal body for function reasons.

1.5 The Groups

Men who train with weights in an attempt to improve their muscularity can experience negative body image; in the extreme this can develop into the syndrome Muscle Dysmorphia. Those not at the stage of being diagnosed with Muscle Dysmorphia may still experience subjective distress or other psychological disturbance. Which groups or types of men may invest more in the achievement of a muscular physique? Male bodybuilders come to mind and have already attracted the attention of body image researchers. The aim of this research project is to examine the body image, Muscle Dysmorphia type characteristics and psychological disturbance in groups of men identified as placing some importance in exhibiting a muscular body shape for either aesthetic or functional reasons. Based on our initial observation that Muscle Dysmorphia may be linked to groups that have a strong desire to reach high aesthetic
goals or need certain physical characteristics to perform some task at a high level, we choose to examine this in bodybuilders and elite Australian Rules football players since these two groups are very representative of the two factors identified.

1.5.1 Bodybuilders

‘Modern bodybuilding is ritual, religion, sport, art, and science, awash in Western chemistry and mathematics. Defying nature, it surpasses it’”(Camille Paglia). This quote sums up the complete immersion in a particular lifestyle that proponents of the sport or pastime of bodybuilding must undertake in order to realise success. Paglia talks of bodybuilding as if it is in fact a lifestyle, and one that inherently condones obsession. This obsession is perhaps what led to the bodybuilding gym being the birthplace of knowledge about Muscle Dysmorphia. This quote says much about the nature of modern bodybuilding and also acknowledges the dark side of what might otherwise seem a healthy activity. Paglia mentions the way bodybuilders’ physiques defy and surpass what is naturally possible. The relationship between bodybuilders and drug use will be discussed later.

As was alluded to above, the notion of a body image disorder more likely to be found in men and typified by a drive to become bigger and more muscular instead of smaller and thinner was first discovered amongst male bodybuilders. The syndrome, dubbed Reverse Anorexia, was identified in bodybuilders in California in 1993 by Harrison Pope and associates. The researchers conducted psychiatric interviews with 108 male bodybuilders and found that their subjects were obsessed with building muscle and increasing body size, and were characterised by a distortion of body-perception where they saw themselves as small and weak while in actual fact they were large and extremely muscular. This appeared to be a cognitive distortion akin to that found in anorexia nervosa but in the opposite direction. The reason that this phenomenon was first found in bodybuilders may seem obvious, but it is worthwhile examining some aspects of bodybuilder culture that may have influenced its genesis.
1.5.1.1 Bodybuilder Culture

There is irony in discovering a body image disorder where men are preoccupied with becoming increasingly more muscular in a population of men who are already objectively large and muscular. The following quote by Arnold Schwarzenegger, possibly the world’s most famous bodybuilder, perhaps gives a hint to the degree of analytical physical self-assessment that leads young men into the gym and the culture of the bodybuilder: "When I was 15-years-old, I took off my clothes and looked in the mirror. When I stared at myself naked, I realized that to be perfectly proportioned I would need twenty-inch arms to match the rest of me." (Arnold Schwarzenegger, as cited in the www.imdb.com biography).

It is not the intention here to suggest that there is anything inherently pathological about the pursuit of bodybuilding; in fact, exercise and training with weights has been shown to have positive effects on mental well-being (Raglin, 1990; Paluska & Schwenk, 2000; Peluso & Guerra de Andrade, 2005) including improved body image (Martin & Lichtenberger in Cash & Pruzinsky, 2004; Raglin, 1990; Tiggemann & Williamson, 2000). Men are attracted to bodybuilding for various reasons, many of which can be life enhancing, and those who are dissatisfied with their body size and already experience lower self-esteem may see it as a way to try to attain some perceived ideal of male attractiveness (Goldfield, Harper & Blouin, 1988).

However, the experience at the gym is not empowering for everyone, and people with existing body image concerns or disordered eating may find that the pursuit of bodybuilding or in fact entering the world of the fitness centre/gym exacerbates their problems (Goldfield et al., 1998). If this is the case, then it is worth having a closer look at the culture of the gym.

With regards to the concept of culture (and hence ‘culture of the gym’), the definition being used is a sharing of meaning amongst people which helps identify and define a group and how it differs from others. Culture also provides identity for the members of the group (Hall, 1997). With male bodybuilders, it is suggested that the shared meaning is their valuing of the social status and recognition of male strength (physical or otherwise) and the recognition of the code of hegemonic masculinity
(Mogensen, 2006). For bodybuilding, the culture is based in a specific physical space –
the gym. Indeed, that was the first observation of an ethnographic case study of a
bodybuilder gym by Andrews, Sudwell and Sparkes (2005). They found that the gym
was not just a physical site for bodybuilding but also had its own rules, etiquettes and
activities making it a complex social and cultural environment. This social and cultural
construction in itself helps replicate the bodybuilder culture into this space.

Apart from environmental factors, the gym culture also incorporated social and
behavioural norms. Andrews et al. (2005) reported on formal and informal codes of
conduct where people entering the gym are expected to sweat, show commitment to
their training and perform well. Men in the gym need to be of a certain size, strength
and attitude, and possess a certain expertise and act in a certain way. These conduct
codes start to act as a pressure to conform. Conforming produces cohesion in the
bodybuilder group but inversely also exclusion, thus a social hierarchy exists which has
included and excluded groups. So the bodybuilder gym and its code of conduct and
social hierarchy forms a place welcoming of those interested in bodybuilding but also
creates a pressure to conform to the norms of the group and this has harmful potential.

Other norms in the bodybuilding culture include that the body equals hegemonic
masculinity and any potential harm (over-training, injuries, life imbalance and steroid
abuse) are ameliorated by the mantra that masculinity equals risk (Mogensen, 2006),
and there is no risk if the outcome is the embodiment of masculinity. One of the more
dangerous risks linked with the gym culture is the use of performance enhancing
substances such as steroids. Andrews et al. (2005), found that the gym they investigated
also acted as a node for the use and distribution of steroids, but this was only amongst
the tight bodybuilder community, the in-group. They saw it as reflective of the cohesion
and culture of the gym, and many of the bodybuilders they interviewed talked of their
addiction to bodybuilding. Thus, to be in the in-group meant being exposed to the use,
and if members developed this addiction to bodybuilding, possible addiction to steroids.

Apart from the negative impact of steroids, the authors acknowledged that as the
men became large bodybuilders the gym became a haven from the potentially negative
societal perceptions of the public gaze – a welcoming, therapeutic, almost homely

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environment. The social support they received from other bodybuilders also perpetuated the bodybuilder culture as men gained experience, inspiration and learned from the others around them. The men even had their own special bodybuilder language. So ironically, as these men pursue their goal of the ideal masculine hyper-muscular body, they become more like the men around them and less like the men outside the gym. Indeed, as their bodies make them increasingly distinguishable from the general public, the therapeutic benefit of the environment and culture of the gym becomes more important, but perhaps also the impact of the unhealthy and harmful aspects of the culture such as compulsive exercise and pressure to use steroids.

1.5.1.2 Bodybuilders and Steroids

In the previous section evidence was provided to suggest that, in the bodybuilder gym culture, steroid use and distribution is an accepted norm. It would be unsurprising to anyone that bodybuilders use steroids, there is even a ‘Naturals’ competition where contestants must show they have trained without the use of performance enhancing substances. The truth is that steroids, or more specifically anabolic androgenic steroids, do work. The anabolic part of the name refers to the protein synthesising properties of the testosterone based drug, which is most effective in muscles (Steroids Fact Sheet, Better Health Channel), that is, it makes muscles grow. However, there are side effects that can be harmful including damage to organs such as the testes, liver, heart and kidneys, plus other physical effects such as severe acne, high blood pressure and high cholesterol. There are also psychological consequences such as anger outbursts (e.g. road rage), paranoia, mood swings, depression and delusions of feeling superhuman or invincible (Kanayama, Hudson & Pope, 2010). It is therefore understandable that there is some concern about the medically unsupervised use of this drug, particularly in those men addicted to bodybuilding and those desperate to attain the ideal male physique.

While there may be a perception that most steroid users are ‘cheating’ athletes and adolescent boys, one study of 1,955 American males found that the real majority group for steroid use was quite different (Cohen, Collins, Darkes & Gwartney, 2007). The typical non-medical anabolic androgenic steroid user was approximately 30 years of age, employed and earning an above average wage, not active in organised sports,
and motivated to use steroids to increase skeletal muscle mass, strength and physical attractiveness. This could describe many of the men caught up in the gym culture. Furthermore, when bodybuilders specifically are asked about their motivations for steroid use they not only mention increasing muscle mass, but also increasing confidence (Wright, Grogan & Hunter, 2000). Unsurprisingly, they also cite enhancing their competition results. A cause for concern is their tendency to minimise, rationalise or deny outright the associated risks. Reports of ‘stacked’ or high dosages and attitudes minimising, denying or rationalising risk and harm indicates the need for harm minimisation intervention with this group (Wright, Grogan & Hunter, 2000).

In this section the bodybuilder gym culture has been discussed and perhaps at the core of it is the value of embodying the hegemonic masculine hyper-muscular ideal body. Codes of conduct were also evident and it was discussed how they impose expectations on new members which can indoctrinate them into this culture. There are also social structures that reinforce the ideal of the culture and encourage members to adhere to healthy and unhealthy behavioural norms. Part of those norms is the acceptance and use of steroids which, though they are effective, have many physical and psychological consequences. Even beyond these potential risks in this pastime there is the strong link between bodybuilding and muscle dysmorphic disorder.

1.5.1.3 Bodybuilders and Muscle Dysmorphia

It has already been mentioned that the precursor to Muscle Dysmorphia, Reverse Anorexia, was first discovered in a qualitative study of male bodybuilders (Pope et al., 1993). Many studies have identified several Muscle Dysmorphia related characteristics in bodybuilders and men who train with weights (Wolke & Sapouna, 2008). These characteristics can be behavioural such as excessive exercising, extreme dieting, binge eating and abuse of steroids (Connan, 1998; Pope et al., 1997; Loosemore et al., 1989). They can also be cognitive in the form of a distorted body self-perception (Pope et al., 1993, 1997; Loosemore et al., 1989). This distortion involves large muscular men seeing themselves as small and weak, essentially the opposite to the distortion seen in anorexia nervosa. These characteristics reflect Muscle Dysmorphia diagnostic criteria such as ‘The individual continues to work out and diet despite knowledge of adverse
physical or psychological consequences’ and ‘Preoccupation with the idea that one’s body is not sufficiently lean and muscular.’

Other studies have looked at the seriousness of the bodybuilder, what Mogensen (2006) would call hard-core and soft-core bodybuilders, with respect to Muscle Dysmorphia related characteristics. The more serious competitive bodybuilders were seen to be more exercise dependant (Hurst, Hale, Smith and Collins, 2000; Smith & Hale, 2004), but those who were less serious reported more social physique anxiety (Hurst et al., 2004). So bodybuilders who were not competitive still experienced anxiety related to their bodies being publicly judged, although this may decrease as they become more serious with their pastime but with the consequence of becoming dependent to the exercise regime. Again, this relates back to the diagnostic criteria for Muscle Dysmorphia, where exercise dependence is included in one of the above mentioned criteria, and where social physique anxiety is reflected in the following criteria: ‘The individual avoids situations where his or her body is exposed to others or endures such situations only with marked distress or intense anxiety’ (Pope et al., 2000, p. 248).

After the Body Dysmorphic Disorder derivative Muscle Dysmorphia was identified (Pope et al., 1997; Olivardia, 2000), a number of studies further investigated the phenomenon in men who train with weights. Two set out to identify Muscle Dysmorphia as a bona fide disorder separate from body dysmorphic disorder (Olivardia, Pope & Hudson, 2000; Choi, Pope & Olivardia, 2002). These clearly show that not all men who train with weights are likely to develop Muscle Dysmorphia as both studies compared weight trainers with Muscle Dysmorphia with ‘normal’ weight trainers. The difference was that the men with Muscle Dysmorphia reported less body satisfaction and expressed a desire to be more muscular and have less body fat (Choi et al., 2002). They also reported more eating disturbance, anabolic steroid use, DSM-IV mood, anxiety and eating disorders, and social physique anxiety and social and occupational functioning impairment (Olivardia, 2000).

Mosley (2009) conducted in-depth interviews with a young male bodybuilder who, though not diagnosed, met the criteria for Muscle Dysmorphia. The analysis
provides a window into the phenomenology of this disorder. In particular, the man suggested how his body size and appearance are especially important to him, and how feeling good about himself in the here and now are more important than any distant future health risks due to his steroid use. The participant also reveals how much his life has been impacted and how much he has sacrificed to maintain his bodybuilder ‘lifestyle’. Interestingly, he talks of his body self-consciousness where he knows he is more muscular than most guys but still feels ‘inadequate’, and how this affects his sex life and makes him not want to look in the mirror when he gets out of the shower. It is quite possible that bodybuilders in the present study (see Chapter 8) are experiencing similar body related distress. Both quantitative and qualitative methods will be used to investigate this further.

Everything reported in this section confirms that bodybuilders are a risk group for Muscle Dysmorphia. Their inclusion in this study will confirm their susceptibility to this disorder and will also be used to investigate if they experience emotional and Psychological Distress associated with poor body image. The final role of this group is to represent a group of men whose physical pastime is solely for the purpose of building a particular physical form, as opposed to training specifically for the purpose of improving physical performance. That is the focus of the next group.

1.5.2 Elite Australian Rules Football Players

There is a lack of research into the pressures placed on high profile, high-income athletes and sportsmen in relation to body size and composition. In Australia few sports have the profile and professionalism of Australian Rules football, particularly at its peak professional level, the Australian Football League (AFL). In 2005, Peter Kelly and Christopher Hickey presented a paper at the Association of Industrial Relations Academics of Australia and New Zealand entitled ‘Risk management, player welfare and privacy: Player development managers and dilemmas for employee relations in Australian Football League clubs’. They described present-day AFL players as ‘professionals whose contemporary job descriptions have widened beyond the physical and character attributes necessary to the tasks of running, jumping, tackling and kicking’ (p. 285). When it comes to recruiting and drafting young players into
professional teams, they argue that ‘character traits indicating capacities to handle 
celebrity, relative wealth, free time, demands from sponsors, clubs and the industry, 
assume more prominence in deciding who to recruit, who to keep on the list, who to 
spend time, energy and resources on developing’ (p. 285). The AFL is big business, 
with an annual turnover in excess of $400 million, and anywhere from $12 to $30 
million annual turnover at individual clubs.

Footballers (the term ‘footballers’ will be used to refer to Australian Rules 
footballers in the remainder of this thesis) can be full-time players these days and 
receive six-figure salaries. While AFL clubs have a cap on how much they can pay to 
their players in wages, $6.2 million between 30 or so players still amounts to a wage 
comparatively high in relation to Australian salary standards (Kelly & Hickey, 2005). 
The degree of high paid professionalism would act as a motivator for young men and 
boys aspiring to the elite level of the sport. It would also put pressure on the players 
earning the high salaries to keep their bodies at maximum potential for the game.

1.5.2.1 Footballers and Sexualised Marketing

The way the sport is marketed may also put players under pressure to maintain 
their physiques. Objectified and sexualised images of AFL players have been used in 
marketing the sport, particularly in an attempt to attract more female fans, and perhaps 
gay male fans. The *Men for All Seasons* calendar initially produced in 1993 and then 
periodically until 2004 used semi-naked stylised pictures of players. It received media 
coverage including a segment on the current affairs television show *60 Minutes* and is a 
prime example of the shift in marketing strategy at the time, aimed at increasing the 
number of women who follow AFL and come to the games.

What may have helped this marketing strategy is the almost cultural sexual 
attraction Australian women have to Australian Rules football players. Nikki 
Wedgewood (2008) wrote about this phenomenon in an article called ‘For the love of 
football: Australian Rules football and heterosexual desire’. She discusses the female 
AFL ‘groupie’ phenomenon where women will go ‘to pubs and nightclubs frequented 
by professional footballers in the hope of meeting and dating them’. This had even been
noted as early as in high school where Wedgewood observed ‘a small number of ‘groupies’ who regularly attended home matches dressed alluringly and taking more interest in the players than the actual games’ (p. 311). She goes on to consider the sexual objectification of players that is inherent in the game, citing Poynton and Hartley (1990) who describe the televising of AFL as ‘barely clad, eye-able Aussie male bodies in top anatomical nick’ which is ‘flagrantly masculine, and erotic’ (p. 150), but also cites Lindley (1997) that ‘watching, admiring, or even desiring male footballers is not the same as objectifying them’ (p. 313). It is quite possible that the sexualised marketing and added female attention that AFL players receive can contribute to an increased self-scrutiny over physical appearance.

The sexualised, almost glamorised, images of muscular semi-naked AFL players may also have an effect on men. Simon Castles (2007) wrote in the *Sunday Age*: ‘For a growing army of men, to look at a team of half naked footy players … is to be reminded of what they lack: great pecs, broad shoulders, washboard abs, even a hairless chest and back.’ So, in addition to female admiration, the players may also have the burden of being seen by many men as an example of the ideal male physical specimen, as something to aspire to, admire, idolise and perhaps resent. And what role, if any, does the media play in this?

### 1.5.2.2 Footballers, Body Size and the Media

Kelly and Hickey (2005) discuss how players need to deal with the concept of celebrity and intrusions into their privacy both from within the football club and publicly from the media. Periodically articles would appear in the print media discussing the general physical size of an AFL player and his need to become bigger. In the March 27 2008 edition of *Melbourne Express*, Scott Cummings produced a two-page feature article on Dale Thomas, a young player from the Collingwood team described by Cummings as a cult figure. When Cummings asks: ‘You’re only a light fella. How much do you weigh?’, Thomas talks of his desire to add 4 or 5 kilograms to his weight. Though the motivation for this weight gain is not explored, he is after all a successful player already at his current weight. A similar two-page spread was published in the June 30 2007 edition of the *Herald Sun* where Jon Anderson was
discussing Geelong’s new recruit Andrew Mackie. This included a smaller article by the same journalist entitled ‘Skinny kid to big star’. The assistant coach of the team comments, ‘I can understand how difficult it is for players with light builds. He is doing the work to give him some extra strength, but will never be a monster.’ In a way he is relinquishing the player to a career marked by a physical lack of strength despite having lauded his abilities on selection to the team: ‘He can run, has a good motor and very good skills’, but countering it with, ‘But natural abilities will only take you so far’. So despite the skill, success and perhaps potential of the two players featured in these articles, they are not considered at the peak of their potential without an increase in strength and body size.

One of the current star players for AFL club Hawthorn, Lance (Buddy) Franklin, has had his developing physique periodically covered in the press. In 2007 he was singled out as a potential key player but ‘He still needs a bit of time to develop his body a bit so he can handle the bigger bodied opponents on a regular basis’ (sportal.com, 2007). In January 2008, Jackie Epstein wrote about the Hawthorn team having ‘lifted its pre-season workload.’ Particularly attention was focussed on Franklin, with one player, Simon Taylor, quoted as saying ‘Buddy Franklin is looking bigger and stronger’, and Epstein adding that ‘Hawthorn ruckman Simon Taylor and Lance Franklin had a swagger that meant defenders were in trouble’ – a lot of public physique scrutiny for a single football player.

This form of criticism can sometimes be blanketed over a group of players or an entire team. One of the best examples of this is a Herald Sun article by Mark Stevens in 2003 entitled ‘Mummy’s boys: Hawks kids too fragile, says Parkin’ (May 20, p. 64). The journalist discusses the comments of Hawthorn’s former coach and football director, David Parkin, who believed the club needed to ‘quickly address an over-supply of light-bodied kids’ and that there are six or seven young players that should ‘be home with their mothers in a real sense’. Six were named, with their photos, age, height and weight accompanying this back-page feature article. Parkin was quoted to say ‘Every one of those [six players] can play and really has a bright future, but they’re not going to be able to play a game which demands a really physical game plan.’ So in Parkin’s
assessment, no matter how skilled or game-smart a young player is, if he doesn’t have the body size to be competitive in the AFL he won’t be successful or in fact useful.

Typically this type of reporting is found in the pre-season build-up in AFL where football journalists look at the progress made by players in their off-season physical conditioning. In 2002 in the middle of the off-season an article by Michael Stevens called ‘Cats aim to join the big boys’ was published in the *Herald Sun* (December 10, p. 75). In it Stevens talks about the Cats’ (Geelong) youth policy and how the youth of their team was most evident when they played the premier team. ‘We looked like little boys in that game’, the coach was quoted as saying. The article goes on to list players who have already bulked up only three months after that game. In early 2003 Scott Gullan of the *Herald Sun* wrote ‘Rise of the 66kg jockey’ (March 29, p. 73), looking at the significant physical development of a Western Bulldogs player, Daniel Giansiracusa, over the pre-season. He mentioned that Giansiracusa could only manage one chin-up when he arrived at the club as a 17-year-old recruit. He has since put on 11 kilograms in body weight and can complete 15 chin-ups, and can bench-press 44 kilograms more than before. These statistics were provided in a table form and included similar data from four other players. When asked about having to play on bigger and harder-hitting players, Giansiracusa replied, ‘It was a bit of a joke then. I was like, how am I supposed to get like these other blokes? It’s not that big of a deal when you are playing junior footy because if you were a little bit small, you were quicker and could get away from the bigger blokes.’ Again, it seems a large body size is being promoted as crucial to AFL success even despite skill, speed, endurance and game intelligence.

In the January 20 2008 *Herald Sun*, in ‘Dogs beef up for more bite’, Rod Nicholson begins with ‘The puppies of last season have grown into bulldogs at the Whitten oval’, referring to the Western Bulldogs AFL Team. He goes on to name three players who had put on 3 kilograms over summer and a further three who had put on 7 kilograms. The coach says that, despite this being a younger team; he hoped the added bulk would help them make it to the finals, unlike the previous year. In a sense he is making a direct link between body size and football success. How do AFL players feel about something as personal as their body weight, or body weight changes, being
publicly reported in the media? Anderson’s article was accompanied by a table entitled ‘Footy featherweights’ which listed the name, club, height and weight of 9 AFL players.

The value of physical bulk in the hard-hitting game was celebrated in the *Age* on March 9. A near full-page article by Rohan Connolly called ‘In-your-face Saints make hefty impact’ (p. 12 Sport) celebrates the fact that the typically smaller, younger and physically intimidated St Kilda players were taking it to the typically larger and physically intimidating Essendon players. The coach attributed this to improved physiques (one player was noted to have put on 6 kilograms that season) and attitudes: ‘When sides expose you physically, your pride gets a bit dented, and I’m sure anyone worth a grain of salt would want to do something about it.’ The article concludes that St Kilda had earned respect that season by its performance on the score board but also by ‘leaving just as big an impression on the bodies of their defeated opponents’.

From the above examples it seems clear that the media is focussed on bodies and body size. It is therefore important to try and understand whether this kind of coverage feeds into possible body insecurities among young players aspiring to the elite level of the AFL.

At least anecdotally, there is reason to suspect that players are under scrutiny and believe they need to have a lower level of body fat and greater muscle size to compete in the more professional, more physical nature of the present-day game. In October 2007, the Port Power club, who were still recovering from the biggest Grand Final losing margin in AFL history, announced that two of its staff would be travelling around Australia, fitness-testing all of its players who were on their end of season break. Players were told they faced ‘the axe’ if they did not meet strict fitness guidelines. The promise of one player needing to be ‘delisted’, and therefore all players’ futures being uncertain, was enough to keep them ‘focussed and on-edge’ (Capel, 2007).
1.5.2.3 Footballers and the Anthropometrics of Success

Fitness testing and anthropometric measurements such as body composition are a key element in the recruitment process for new players. The annual draft camps, where mainly teenaged players from junior leagues and high school teams ‘try out’ for the AFL, include a series of physiological tests such as fitness (endurance, vertical jump, speed, repeat speed and agility), physical (height, weight, skin-folds, flexibility, hand span and arm length) and psychomotor tests (decision making, reaction time and peripheral awareness) (www.topendsports.com/sport/afl/testing.htm). So right from the beginning of a potential professional career in football, players’ physiques are scrutinised and linked to reward, in this case, being drafted into an AFL team.

Pyne, Gardner, Sheehan, and Hopkins (2006) looked at the utility of using these physiological tests as a relatively heavily weighted part of the player draft. They found that a player position profile could be obtained by looking at anthropometrics such as height and body mass and fitness characteristics such as speed and endurance. They felt this information could help in future recruitment. They also found that players recruited over the period from 1999 to 2004 were getting taller and faster (the second of which was measured in a 20 metre sprint). Young, Newton, Doyle, Chapman, Cormack, Stewart and Dawson (2005) also found that player positions could be differentiated by anthropometric measurements such as percent body fat, fitness and upper body strength. More importantly, they also found that players at an elite AFL club who started on field in the season opening game could be differentiated by anthropometrics. Those who started were older and more experienced and had more leg power and sprint speed, two abilities reliant on muscularity, compared to those who did not.

These sorts of comparisons and results are not new. As far back as 1985, Burke, Read and Gollan found that when examining the anthropometrics of footballers from a top level professional league team, a second level association team and an A-grade amateur association team, those in the elite professional team were taller, heavier, had lower percentage body fat and a greater fat-free body mass than the non-elite players. This perhaps shows that if players want to reach the higher levels of the sport they also needed to be more athletic, with more muscle and less body fat. More recently, similar
results were found for junior level players. In 2006, Young and Pryor noted that successful junior elite AFL players could be differentiated from less successful peers by examining preseason anthropometrics and fitness testing. Those who received more ‘best and fairest’ votes were shorter, lighter, and possessed more speed and endurance. Also the top four teams could be differentiated only by having more body mass, in other words, the more muscular teams were more successful. This shows that, even at the junior levels of this sport, more muscle means more success. Current AFL players are full-time professionals with a myriad of sports science behind them and almost limitless recourse and virtually boundless time to devote to training for their sport and profession. Because of this, and because of the more professional fast-paced game that exists now, they would need to be even more athletic.

With the high pay and high profile, the added scrutiny of body composition, and the almost natural selection for larger stronger players, it is important to examine if there is a risk, for functional reasons at least, of some players developing an obsession with the musculature of their body. The present study seeks to answer this question.

1.6 Study One: An Investigation of Muscle Dysmorphia, Body Affect and Psychological Distress in Bodybuilders and Footballers

The aim of Study One was to examine characteristics of Muscle Dysmorphia, body affect and aspects of psychological disturbance such as stress, depression and anxiety in the above specific groups of men (bodybuilders and footballers). Results will be compared to a control group consisting of male undergraduates. It is predicted that the bodybuilders and footballers will have higher scores on Muscle Dysmorphia characteristics, lower scores on body affect, higher subjective distress and report more frequent exercising than the controls. It is also predicted that Muscle Dysmorphia characteristics will have a relationship with the other variable where higher more frequent expressions of Muscle Dysmorphia characteristics will be related to lower body affect, more frequent exercising and higher subjective Psychological Distress.
1.6.1 Study One Hypotheses

1. Across the entire sample, scores on Muscle Dysmorphia will be negatively correlated with scores on Body Esteem, positively correlated with scores on a measure of subjective Psychological Distress and positively correlated to reported frequency of exercise
2. The footballers and bodybuilders will score higher on Muscle Dysmorphia than the controls
3. The footballers and bodybuilders will score lower on Body Esteem than the controls
4. The footballers will score lower on the Body Esteem measure related to physical function as compared to controls and bodybuilders
5. The bodybuilders will score lower on Body Esteem measure of physical form as compared to controls and footballers
6. The footballers and bodybuilders will score higher on psychological disturbance (as measured by the DASS) than the controls.

1.7 Study Two: An Investigation of Body Dissatisfaction and Body Perception Distortion and Their Consequences

Study Two will concentrate more on body dissatisfaction and body perception distortions. Both of these are reflected in the diagnostic criteria of Muscle Dysmorphia, namely, ‘being preoccupied with the idea he or she is not sufficiently lean and muscular’ and ‘primary focus of the preoccupation is with being too small or inadequately muscular, and not on being fat, as in anorexia nervosa, or on other aspects of the appearance, as in other forms of Body Dysmorphic Disorder. Many mechanisms can be used to measure these aspects of body image in men but here we will consider the body compositional measure of the somatotype (Cafri & Thompson, 2004). Somatotype is described as the morphological configuration of the body (Carter, 1975), in other words, how muscular, fat and/or skinny a man’s body is.

While the measurement technique will be described in detail in the methods section, it is worth mentioning here for the sake of the hypotheses that the method will
be the Heath-Carter Somatotyping method (Heath & Carter, 1967). The three separate measures of the somatotype – muscle (Mesomorphy), body fat (Endomorphy) and skinniness (Ectomorphy) – will be used individually as opposed to one absolute value of the somatotype. This is because it has been identified that men’s body dissatisfaction might involve qualitatively different issues that each of these measures may capture. In particular, dissatisfaction may relate to issues of muscle and/or body fat, that men may wish their body size to become bigger or smaller (Cafri, Strauss & Thompson, 2002) or more muscular and leaner (Pope et al., 1997, 2000; Olivardia, 2001). It has also been suggested that fat-burning exercises in order to gain a leaner physique can also be part of a strategy to achieve the ultimate goal of a more muscular physique (Jones & Crawford, 2005). Intuitively you would expect someone who wants to be thin but perceives themselves to be fatter than they are to behave differently from someone who wishes to be muscular but perceives themselves to be skinnier than they actually are, and this is to be explored in Study Two. Consequently, current measured somatotype measurements will be compared to a desired somatotype to obtain a measurement of body dissatisfaction; and be compared to a self-perceived somatotype to obtain a measure of perceived body distortion (i.e. do these men see their body differently to how it is measured?).

The aim of Study Two is therefore to investigate the relationship between body dissatisfaction and body perception distortion with the psychological variables used in Study One in the three groups of men encompassed in this research project. It is predicted that higher body dissatisfaction and greater body perception distortion will be associated with a higher expression of Muscle Dysmorphia characteristics, more exercise, lower scores on body affect and higher subjective distress. It is also predicted that the experimental groups will express higher body dissatisfaction and greater perceived body distortion than will the controls.

1.7.1 Study Two Hypotheses

1. Somatotype perception distortion for Mesomorphy will have a positive relationship with Muscle Dysmorphia, Total Weekly Exercise and Psychological Distress, and a negative relationship with Body Esteem.
2. Somatotype perception distortion for Endomorphy and Ectomorphy will have a negative relationship with Muscle Dysmorphia, Total Weekly Exercise and Psychological Distress, and a positive relationship with Body Esteem.

3. The bodybuilders and footballers will have a higher score on somatotype perception distortion for Mesomorphy as compared to the controls.

4. The bodybuilders and footballers will have a lower somatotype distortion for Endomorphy and Ectomorphy as compared to the controls.

5. Those who are dissatisfied with their Endomorphy, Mesomorphy or Ectomorphy will also score higher on Muscle Dysmorphia, Psychological Disturbance, lower on Body Esteem and higher on Total Weekly Exercise.

6. The bodybuilders and footballers will be more dissatisfied with their Endomorphy, Mesomorphy and Ectomorphy than will the controls.

7. Those who reported dissatisfaction for Endomorphy, Mesomorphy or Ectomorphy will also report a perception distortion on the same somatotype component.

8. Those participants who have a perception distortion where they perceive themselves as less muscular than they have been measured as will score higher on Muscle Dysmorphia, Psychological Disturbance and Total Weekly Exercise and lower on Body Esteem.

1.8 Study Three: A Qualitative Investigation of the Contributors, Consequences and Lived Contexts of Male Body Image

Much of the work examining the complex syndrome of Muscle Dysmorphia has been phenomenological. Pope et al. (2000, 1997, 1993) gained much knowledge on the phenomenon from extensive psychiatric interviews with men in gyms or otherwise referred to them. In The Adonis Complex, Pope expressed the need to develop some rapport with subjects and normalising some of the aspects of male body image disorders to encourage open and honest disclosure. He often states in case studies that it took quite a while for subjects to open up. In these interviews much of the information used to classify Muscle Dysmorphia was gained. The importance and strength of narrative research is to garner an understanding of the health issue being investigated from the perspective of the lived context of those being interviewed. Some argue that you cannot
attain a full understanding of a person’s health problem or, indeed, prescribe a model of care without first comprehending the lived context in which they experience the problem (Marcum, 2004).

Murray Drummond (2002; Phillips & Drummond, 2001) has performed many qualitative studies into eating disorders and other body image disorders in men. His semi-structured interviews draw out much more information on the phenomenology of males with body image disorders than could be attained from questionnaire studies. His work attests to the ability of interviews to draw out the distress experienced by males suffering from what they see as a ‘female’s problem.’ Drummond’s qualitative analyses pointed out the importance of masculinity in the experience of men with eating disorders. His respondents expressed a flawed sense of masculinity in being perceived as eating disordered. This set them apart from females with these conditions and was also an impediment to them seeking treatment. In addition, Drummond noticed the phenomenological occurrence of competitiveness in these men. For example, he noted how a young man who did not quite meet the requirements to be admitted into an eating disorders clinic decided to not only lose enough weight to be admitted but also to lose enough be considered the ‘sickest’ male in the clinic.

The notion of masculinity is an important one. Men’s self-concept of masculinity may have a lot to do with their concept of their bodies. Men have said that they pursue a muscular physique to look more masculine (Morrison, Morrison & Hopkins, 2003; Frederick, Buchanan, Sadehgi-Azar, Peplau, Haselton, Berezovskaya & Lipinski, 2007). It has been theorised that the striving for muscular size in men could be a reflexive shift in the way they express their masculinity (Pope et al., 2000; Mishkind et al., 1986). This is made necessary by the success of the feminist movement in removing a man’s chosen job or indeed position in the family as being an expression of his masculinity. Thus a final bastion of masculine self-expression for men may be to embody their masculinity like the superheroes of their childhood (Mills and D’Alfonso, 2007). The current author has found in his previous research that men who experience body dissatisfaction also feel less masculine (O’Sullivan & Tiggemann, 1997), and other research corroborates this (Forbes, Adams-Curtis, Rade & Jaberg, 2001; Drummond, 2002). Taking all this into consideration, it seems relevant to include
discussion about masculinity in the narrative analysis of the body image experiences of bodybuilders, footballers and the controls. Therefore, in the present project, the ways in which these men experience their bodies and body image will be explored along with male specific possible contributors such as notions of masculinity and competitiveness.

In Study Three, three randomly selected participants from each group were called back to undergo semi-structured interviews to discuss issues concerning the personal impact of body image. Only a small number were selected so as to get an in-depth understanding of the lived contexts in which they experience their bodies and body image. The idea of this is to give additional context to the quantitative findings in Studies One and Two. It will also help explore any unexpected findings from the first two studies. It is not designed, in itself, to be an in-depth qualitative exploration of each group. It is also not meant to be a qualitative analysis comparing the groups. Rather, it is designed to help give direction to future quantitative and qualitative research on body image in specific groups of men.

All participants will be asked the same set of questions to enable the investigation of themes across participants. However, there will also be opportunity to express their own ideas or take on each issue. The standard questions are:

1. How satisfied are you with your body at the present?
2. What would you want to change about your body? Are muscles important?
3. What would be your ideal body shape and how important is it for you to achieve that?
4. How would life be different if you achieved that body shape?
5. What eating or exercise habits do you do at present to improve your body for looks or performance reasons?
6. How does your body make you feel more or less masculine?
7. Do you feel being overly concerned with your body is a more female concern? Why?
8. How do your feelings about your body impact on the way you see yourself in general?
9. What are you prepared to do in your pursuit of a better body? Are steroids a possibility or diet pills, laxatives etc?
10. How has the desire to improve your body affected your daily life?

11. How competitive do you feel about the appearance of your body as compared to other men, either those men you know or those you see in the street?

12. How competitive do you feel about your performance in the gym or during other exercise activities as compared to the men around you?

Thus, Study Three aims to elucidate these men’s experiences of body image, particularly any characteristics of Muscle Dysmorphia, and to identify any new phenomenological themes brought up by subjects. It will also explore anything that might be qualitatively unique to any of the groups, plus questions that might have arisen from the first two quantitative studies. It is expected that those in the experimental groups will express more body image related themes than those in the controls.
CHAPTER 2: METHODOLOGICAL CONSIDERATIONS

2.1 Body Image Affect Measure

Poor body image can be characterised by two components. One is that there is a difference between how a person sees their own body and how they see their ideal body. The other is whether there is any negative affect attached to this difference. Cash and Pruzinsky (2004) refer to these components via the cognitive-behavioural perspective as body image evaluation and body image investment. They are not necessarily, but can be, mutually exclusive. For instance, a man may see himself as very skinny and see his ideal body shape as hugely muscular, but not care too much about that difference and have no motivation to do anything about achieving his ideal body shape; whereas another man may see himself as average to slightly athletic and see his ideal as only slightly leaner and more muscularly defined than he is now, but experience great distress about not having the body shape he desires and exercise and diet obsessively.

In this study, the affect component of body image was measured by the Body Esteem Questionnaire (Franzoi & Shields, 1984). This asks respondents about their positive and negative feelings about their body parts and functions and is described in further detail in the Method section. As well as having a global measure for Body Esteem, Franzoi and Shields used factor analysis to determine three subscales. Two of these (Physical Conditioning and Upper Body Strength) look at body image from a functional point of view, where traits like strength are valued, and the other (Physical Attractiveness) looks at it from a physical form perspective where, for instance, the look of muscles is valued. In this study, both the global and the subscales were used.

The Body Esteem subscales were used to examine the function and form sides of body image affect to try to identify any Body Esteem issues specific to each of the experimental groups in this study. Considering that the footballers are more likely to train their bodies for performance and functional reasons, whereas the bodybuilders do so for mainly form and appearance reasons, this tool is suited to investigate the positive or negative body image affect in these groups.
2.2 Psychological Distress Measure

One of the main aims of this study is to determine if men in particular groups experience psychological consequences as a result of poor body image. As no specific type of Psychological Distress was predicted, it was decided that a generalised measure would be used. Although no specific distress is being predicted, the diagnostic criteria for Muscle Dysmorphia include feelings of anxiety as well as general distress in certain situations. The tool chosen to explore Psychological Distress in this sample is the Depression Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1995).

The DASS is constructed from three scales that measure the titular depression, anxiety and stress. They contain further subscales of two to five items that measure similar content. The Depression Scale measures dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia. The Anxiety Scale measures autonomic arousal, skeletal muscle effects, situational anxiety and subjective experience of anxious affect. The Stress Scale measures levels of chronic non-specific arousal such as difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. The manual for the Depression Anxiety and Stress Scale by Lovibond and Lovibond (1995) attests to the validity of using the total DASS scale rather than analysing using only the three component scales, and that is how it was used in the present study. Therefore, unlike the Body Esteem Scale, the DASS will only be analysed as a whole scale. As a further justification, within the current sample, the DASS component scales all inter-correlated moderately yet highly significantly. The Stress and Anxiety Scales are most correlated (Cronbach’s alpha = .55, p < .001), followed by the Stress and Depression Scales (Cronbach’s alpha = .44, p < .01), and finally the Depression and Anxiety Scales (Cronbach’s alpha = .40, p < .01). This indicates that the three component scales are not independent of each other and, whilst they do not necessarily conceptually overlap, they may be measuring at least in part some shared causes (Lovibond & Lovibond, 1995). Further detail on the DASS is provided in the Method section.
2.3 Muscle Dysmorphia Measure

To measure the characteristics of the body image disorder Muscle Dysmorphia within the current sample, a tool needed to be created. Vera Schneider (2006), when researching the relationship between masculinity, body image and ego strength in male college students, created her own tool by merging items from the Adonis Complex Questionnaire (ACQ) with items from a Muscle Dysmorphia Questionnaire (MDQ). Both questionnaires were authored by Pope et al. in *The Adonis Complex*. The ACQ helped readers determine the degree to which the Adonis Complex was affecting their lives. Part of what Pope dubbed the Adonis Complex was the condition Muscle Dysmorphia. The MDQ, on the other hand, was more a set of ‘clues’ to Muscle Dysmorphia than a diagnostic or research tool. Schneider found her composite scale, the ADQ-R, to be statistically reliable with a Cronbach’s Alpha of .82. A similar tool was created for the current research. The measure of Schneider was not used because it was considered not representative enough of the characteristics of Muscle Dysmorphia. The measure created here needed to contain items that reflected the characteristics of Muscle Dysmorphia that make up the diagnostic criteria in the DSM IV and that were listed in the previous chapter.

Initially 13 items were selected from Pope et al.’s ACQ and, as can be seen in Table 1, load heavily on Muscle Dysmorphia diagnostic criteria B3. This loading occurs because the ACQ has several items that assessed different aspects of social, occupational and financial impairment due to preoccupation with body size. One of the items (MD item 5) asked about grooming, which was deemed a factor more related to generalised body dysmorphia than Muscle Dysmorphia. It was subsequently omitted from the scale when it came to analysis as it was deemed too qualitatively different from the rest. Although the selected ACQ items cover all the diagnostic criteria, more items are needed to provide a more even spread across criteria.
Table 1: *The Source of Muscle Dysmorphia Scale Items and the Muscle Dysmorphia Diagnostic Criteria They Represent*

<table>
<thead>
<tr>
<th>Muscle Dysmorphia Criteria</th>
<th>Muscle Dysmorphia Scale items by number, listed under their source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Being preoccupied with the idea he or she is not sufficiently lean and muscular</td>
<td>Adonis Complex Questionnaire 6, 7, 9 Reverse Anorexia Questionnaire 3</td>
</tr>
<tr>
<td>B. 1) Frequently giving up important social, occupational or recreational activities because of a compulsive need to maintain his or her workout and diet schedule</td>
<td>Adonis Complex Questionnaire 10, 12, 13 Reverse Anorexia Questionnaire 3</td>
</tr>
<tr>
<td>2) Avoidance of situations in which his or her body is exposed to others, or endures such situations only with marked distress or intense anxiety</td>
<td>Adonis Complex Questionnaire 3, 13 Reverse Anorexia Questionnaire 4 Total Items 3</td>
</tr>
<tr>
<td>3) The preoccupation about the inadequacy of body size or musculature causes clinically significant distress or impairment in social, occupational or other important areas of functioning</td>
<td>Adonis Complex Questionnaire 1, 2, 8, 10, 11, 12, Reverse Anorexia Questionnaire 6</td>
</tr>
<tr>
<td>4) The individual continues to work out, diet or use performance-enhancing substances despite knowledge of adverse physical or psychological consequences</td>
<td>Adonis Complex Questionnaire 17, 18 Reverse Anorexia Questionnaire 14, 15 Total Items 4</td>
</tr>
</tbody>
</table>

Additional items for the Muscle Dysmorphia Scale were drawn from a research tool devised by O’Sullivan and Tiggemann (1997) to measure the characteristics of Reverse Anorexia as identified by Pope *et al.* (1993). Items targeted attitudes and feelings involving comfort at showing one’s body in various public places such as the
beach and in the gym, types of clothing preferred, feelings towards body size and frequency of socialising. Three items were selected from this scale to add to the balance of items covering the spread of Muscle Dysmorphia diagnostic criteria. One item assessed criteria B2 (see Table 1) and another assessed criteria A. A third item (MD Item 16) from this Reverse Anorexia Scale was used although later discarded as it correlated poorly with the rest when the Muscle Dysmorphia Scale was tested for reliability. It was also qualitatively different from the rest of the items, in that it asked how frequently participants liked being able to see their body shape in the mirrors at the gym, where responses may have more to do with monitoring weight training technique than body satisfaction.

The final two items (MD items 14 and 15) were included to further address MD diagnostic criteria B4. They were written to cover firstly illegal substance use such as steroid use and secondly over-the-counter medications or supplements such as diet pills. The two items were worded to ask participants about their attitudes to the use of substances by people in general if there were no legal repercussions, for example: *If drug testing and banning were not an issue, I think it’s reasonable for someone to take illegal steroids, diet pills and other substances to gain muscle, or otherwise improve appearance.* Although it would have been preferable to directly ask participants if they had ever used such substances as steroids to improve their bodies to further examine behaviours directly associated with the criteria of Muscle Dysmorphia, it was not possible for two reasons. Firstly, the Swinburne Ethics Committee preferred the items to address attitudes to substance use rather than requesting participants to admit to illegal substance use. Secondly, football clubs and players would not look favourably on being asked about steroid use, and this could impede participant recruitment for that group.

With regards to the validity of the composite scale used to measure Muscle Dysmorphia in the present research, while the results of Schneider’s (2006) use of a similar composite scale do not necessarily attest to the validity of the current Muscle Dysmorphia Scale, its coverage of the Muscle Dysmorphia diagnostic criteria from the DSM IV suggests it has face value. The Muscle Dysmorphia Scale and its reliability are described in the Method section.
CHAPTER 3: METHOD

3.1 Overview

The present study has been designed as a mixed methods (quantitative and qualitative), cross-sectional investigation in order to gain a greater understanding of the phenomenology surrounding men’s body image. This design, involving two quantitative studies and one qualitative study, was deemed the most appropriate approach to answering the research aims because both the occurrence and the experience of body image related issues could be explored. Study One involves all the psychological variables as measured by a questionnaire consisting of several scales. The scales administered include a Muscle Dysmorphia Scale (O’Sullivan & Tiggemann, 1997; Pope et al., 2000), the Body Esteem Scale (Franzoi & Shields, 1984) and the Depression Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1993; Lovibond, 1983). Some demographics and information on exercise behaviour was also recorded.

Study Two which looked in more detail at the notion of body dissatisfaction and body perception distortion takes an experimental approach whereby objective anthropometric measurements of the subject’s somatotypes (body shape) were taken. Perceptions of own somatotype and desired somatotype were attained via selections from an array of photographs of different male body shapes. These were compared to the ‘actual’ measured somatotype to determine a value representing body satisfaction and body self-perception. This experimental approach is still rarely used in body image research, where researchers prefer to use self-reports of body shape or ratings of somatotype provided by a panel of judges. Data drawn from Study Two was also investigated in relation to the questionnaire data attained in Study One.

Study Three involved a random call back of volunteer participants across the entire sample to undergo more in-depth interviews. These were designed to elicit more qualitative data on the phenomenology of male body image and to paint a picture of the lived contexts in which these men experience their body image. Semi-structured interviews used a script of questions chosen to draw on various aspects of the more male specific body image disorder, Muscle Dysmorphia. In addition, themes relating to
issues that are gender specific such as masculinity and competitiveness were drawn out (Drummond, 2002; Phillips & Drummond, 2001; O’Sullivan & Tiggemann, 1997; Pope et al., 2000) and other themes that arose from the interview data were analysed. Both the qualitative and quantitative aspects of the current study aim to explore the specifics of male centred body image concerns.

3.2 Participants

Participants were males between the ages of 18 and 36. Three groups were recruited via various means. The control group consisted of 25 university undergraduates, a group often used in body image research and usually reporting a minimal psychological or emotional impact of body image (Koenig & Wasserman, 1995, and Santor et al., 1994). This group was enlisted by using a Research Experience Programme created to give undergraduate psychology students first-hand experience in the types of research performed in this field. Each of these subjects attended individual data collection sessions at the Swinburne Psychology Clinic. The age range of this group was from 18 years to 29 years, with a mean of 21.08 years.

The first of the experimental groups, or those groups identified as having some specific investment in their body shape, was bodybuilders. They represented the body image drive in men who are specifically aiming for an ideal body appearance, in other words, body form over body function. This group and the other experimental group were recruited using a word-of-mouth or ‘snowball’ method where each contact was asked if he knew anyone else who would be interested in participating in the study. Initial contacts were secured from visits to gymnasiums known for specialising in bodybuilding, or through word-of-mouth via various contacts of the researcher. Bodybuilders were defined as those men who reported they were training for bodybuilding or were engaging in bodybuilding type training. This included training to build muscle size, ‘splitting’ their training routine such that different muscle groups where trained on different days, and modifying diet to increase protein intake etc. Thus, it was the self-identification of the members that defined this group. Fifteen men were recruited to this experimental group. For this group, data collection occurred on site at
each of the gymnasiums involved and in the Swinburne Psychology Clinic. This group’s age ranged from 20 to 36 years, with a mean of 27.64 years.

The second experimental group was made up of elite Australian Rules footballers. This group represents the types of men who may become preoccupied with their bodies from the rigor of aiming for the ideal in physical performance. Fifteen footballers were recruited by approaching local Victorian Football League (VFL) clubs via their administration departments and coaching staff. I liaised with the coaching staff to recruit the players who had serious and realistic aspirations to be drafted into the Australian Football League (AFL), the most elite and professional league. I travelled to their club rooms to perform the data collection. This group’s age ranged from 18 to 22 years, with a mean of 19.67 years.

3.3 Materials and Questionnaires

3.3.1 Study One

3.3.1.1 Muscle Dysmorphia

The Muscle Dysmorphia Scale was a hybrid scale combining items from various sources. Its creation was described in Chapter 2. A total of 18 characteristic items were combined from the original two questionnaires to form the final Muscle Dysmorphia Questionnaire (see Appendix 1). Subjects were asked how true each of the statements was of themselves (e.g. I spend over 60 minutes total, a day, on grooming activities to improve my appearance.) on a 5-point Likert scale as follows: A. Never or almost never true; B. Sometimes but infrequently true; C. Occasionally true; D. True about half the time; E. Often true; and F. Always or almost always true. The reliability of this scale was determined by a Cronbach’s Alpha and is reported in the results section.

3.3.1.2 Body Affect

To measure the affective aspect of body dissatisfaction the Body Esteem Scale (BES) was used. Franzoi and Shields (1984) devised the this scale which for the first
time looked at body satisfaction as a non-unidimensional concept. This scale is an updated version of the Body-Cathexis Scale (Secord & Jourard, 1953). For males, the BES produces values for three body image factors: (a) upper body strength, (b) physical attractiveness and (c) general physical condition. It is a measure of body image affect, in that respondents are asked to rate 35 items on the following 5-point Likert scale: 1. Have strong negative feelings; 2. Have moderate negative feelings; 3. Have no feelings one way or the other; 4. Have moderate positive feelings; 5. Have strong positive feelings. Items include body parts (e.g. nose, arms and chest) and functions (e.g. reflexes, agility and sex activities). A full list can be found in Appendix 1.

Internal reliability (coefficient alpha) for the three factors or subscales for male respondents in the original Franzoi & Shields (1984) study were reported as follows: .81 for the attractiveness factor, .85 for the upper body strength factor and .86 for the general physical condition factor. This indicates a reasonable internal response consistency within each factor and confirms the BES is reliable enough for use in the present study. With the scale’s reliability addressed, the validity of the BES must also be acknowledged. Its validity was confirmed by investigating convergent validity with the Rosenberg Self Esteem Scale (Franzoi & Shields, 1984). Moderate correlations in the range of .45 to .51 were found between that scale and the three male factors of the BES. This suggests the BES is a sufficiently valid tool for use in the present research.

3.3.1.3 Psychological Distress

To gain a measure of Psychological Distress, the Depression Anxiety and Stress Scale (DASS) created by Lovibond and Lovibond (1995) was used. A measure of the degree to which each subject experienced characteristics of depression, anxiety and/or stress in the past seven days was drawn from this scale. Forty-two total characteristics and symptoms of depression, anxiety and stress are listed for each subject to indicate how much each symptom applied to them over the past week. A scale ranging from 0 to 3 was used for the subjects to respond: 0 - Did not apply to me at all; 1- Applied to me to some degree, or some of the time; 2 - Applied to me to a considerable degree, or a good part of the time; and 3 - Applied to me very much, or most of the time. As mentioned in Chapter 2, the DASS will only be analysed as a grand total representing a
general measure of Psychological Distress. The validity of this scale has been well attested to, including correlating well with the Beck Anxiety Inventory (.81) and the Beck Depression Inventory (.74) (Lovibond & Lovibond, 1995). Internal reliability for the current sample was calculated by a Cronbach’s Alpha and reported in the Results section of this thesis.

3.3.2 Study Two

3.3.2.1 The Heath-Carter Somatotyping Technique

Study Two is concerned with the detailed investigation of body dissatisfaction and body perception distortion. In acknowledging that men’s body concerns and ideals may involve muscle and/or fat in addition to wanting to be bigger or smaller (Cafri, Strauss & Thompson, 2002), both dissatisfaction and body perception were examined using the three body composition components of the somatotype. Somatotypes were measured using the Heath-Carter Somatotyping method (Heath & Carter, 1967). The strict definition of somatotype is a description of present morphological conformation (Carter, 1975), in other words, of the current body shape and composition, including height, weight, body fat, lean muscle mass and bone width. This involved the calculation of three co-ordinates. The first represented a measure of Endomorphy, defined as the relative fatness of an individual physique, that is, the amount of body fat on someone’s body. The second was a measure of Mesomorphy, defined as the relative musculo-skeletal development per unit of height. This is a measure of how much muscle someone has on their body relative to their height and size of their skeletal frame (bone thickness). The third was a measure of Ectomorphy, defined as the relative linearity of individual physiques, or relative thinness. This basically measures how long and lean someone is for their frame.

Appendix 2 contains the Heath-Carter Somatotype Rating Form which was used to help calculate each co-ordinate (Carter, 1975). The Endomorphy rating (co-ordinate) was taken from the sum of four skin-folds: subscapular (shoulder blade), supraspinale (hip), triceps (back of the upper arm) and medial calf, which were taken using a set of Slim Guide skin-fold callipers and measured in millimetres. The skin-fold sum was then
compared against the 3.9 mm intervals found in Table 1 in Appendix 2, with the corresponding range determining the co-ordinate number allocated. The normal range for a rating (co-ordinate) is between 1 and 7, with 1 being someone with virtually no body fat and 7 being someone with a lot of body fat. The skin-fold technique as conducted by the author was a very reliable measure.

The determination of the Mesomorphy rating was slightly more involved. Height (cm) without shoes was measured and its corresponding place on the first column of Table 2 on the Heath-Carter Somatotype Rating Form (Appendix 2) was marked, marking between numbers if necessary. A line was then drawn across the remaining four columns level with the height mark. The first of the remaining columns is humerus (elbow) width, the second is femur (knee) width; both are measured with bone callipers. The next column represents biceps girth (measured with a tape measure at half the distance between the shoulder and the elbow) minus the skin-fold at the triceps, which gave a measure of muscle without the fat. The final column is calf girth taken at the widest point with the mid-calf skin-fold subtracted again to give a measure of muscle without the fat. Each measurement was placed on its corresponding column (where a measurement lies between two numbers on the column, then the one closest to the line drawn from the height mark is chosen). The number of intervals different from the height line (a positive number if the difference is above the height line and a negative number if the difference is below the line) were added together and this was labelled the ‘sum of deviations’ and placed in the equation at the bottom of Table 2 to determine the Mesomorphy rating or second co-ordinate. Again, the normal range for the second rating (co-ordinate) is between 1 and 7, with 1 being someone with very little muscle and 7 being someone with a lot of muscle (like a bodybuilder). The bone width technique as conducted by the author was a very reliable measure.

The final co-ordinate, the Ectomorphy rating, was calculated by dividing the height of the subject by the cubed root of their weight (measured in underwear only). Seca electronic scales with an attached height measurement rod were used to take the measurements. The result was then compared to Table 3 in the Heath-Carter Somatotype Rating Form (Appendix 2). The 0.32 unit interval that the above calculated number falls within determines the third co-ordinate by referring across to the
corresponding Ectomorphy rating. The normal range for this third rating (co-ordinate) is between 1 and 7, with 1 being someone who is large for their body frame (lots of body fat and/or muscle) and 7 is someone who is very lean for their frame (very little body fat and/or muscle).

The final result was a trio of the co-ordinates Endomorphy, Mesomorphy and Ectomorphy, thus if someone has a rating of 1, 7, 1, this means their Endomorphy (body fat) is low, their Mesomorphy (muscle) is high and their Ectomorphy (leanness) is low. These three co-ordinates can be plotted on a 3-dimensional graph. However, these 3-D co-ordinates were transformed into two co-ordinates (that is from a 3-D co-ordinate system to a 2-D co-ordinate system), so the somatotype could be plotted on a 2-dimensional Heath-Carter Somatochart (see Appendix 3) (Carter, 1975). The two dimensions represent the X and Y axis. These somatocharts containing the somatotype feedback for each participant were offered to them and their data explained. On each chart, the participant’s measured somatotype co-ordinate point was placed, as was the point for the desired somatotype and the perceived somatotype, both of which they had chosen from an array of photos representing the 14 basic somatotypes. Thus each participant could get a visual idea of how far from (or close to) they may have been in choosing their perceived somatotype. They could also see how distant (on the somatochart) their perceived and actual somatotypes were from their desired somatotype or body shape.

3.3.2.2 Body Dissatisfaction

In Study Two, Body Dissatisfaction was obtained from the discrepancy between the perceived somatotype/body shape, chosen from the photographs provided in the first section of the questionnaire, and the desired somatotype/body shape chosen from the same photographs (Appendix 1), that is, the difference between how they think they look and how they want to look. The photographs represented the following 14 somatotypes (preceded by the letter allocated them in the questionnaire and succeeded by their somatotype co-ordinates), A- polar Ectomorphy (117); B- meso Ectomorphy (136); C- ecto Mesomorphy (163); D- polar mesomorph (171); E- mesomorph ectomorph (245); F- endo ectomorph (316); G- balanced mesomorph (353); H- endo
mesomorph (361); I- endomorph ectomorph (424); J- central (444); K- mesomorph endomorph (542); L- ecto endomorph (613); M- meso endomorph (631); N- polar endomorph (711). Each of the men in these photographs have been judged on the three components of somatotype, so each will have an Endomorphy (fatness), a Mesomorphy (muscularity), and an Ectomorphy (thinness) co-ordinate. These three components/co-ordinates are always presented in this order. The photographs were taken from ‘The Atlas of Man’ by Sheldon, Dupertuis, and McDermott (1967) and were chosen so that subjects could choose any value across a graded continuum for each of the three measures, with 14 photos representing all the co-ordinate combinations that represent the continuums across each of the three measures.

The following is an example of how the perception distortion calculation works. If a participant thinks they look like the polar ectomorph (117) and want to look like the polar mesomorph (171), it means that they are satisfied with their Endomorphy or body fat as their perceived and desired ratings both equal 1. They also desire to increase their Mesomorphy or muscularity as they wish to go from a perceived rating of 1 to a desired rating of 7, and they wish to decrease their Ectomorphy or skinniness by reducing their perceived rating of 7 to their desired rating of 1. In other words, a skinny guy is happy with his lack of body fat but wishes to have more muscles.

The reason for having measures of Body Dissatisfaction (seen here) and Body Affect (in Study One) was the possibility that a subject may indicate a great discrepancy between perceived and desired body shape but not be too worried about it. Conversely a subject may have a small difference between his perceived and his desired body shape but feel quite badly about it. Thus, it was possible to distinguish between body dissatisfaction affect and body dissatisfaction cognitions. With regard to scoring, a high somatotype discrepancy indicated high body dissatisfaction, conversely though the Body Esteem Scale was scored in the direction of increasing satisfaction.

Because it could be possible for a participant’s desired body shape to be beyond the muscular mesomorphic body shape represented in most anthropometric literature, that is, he could desire to be hyper-mesomorphic such as an extreme bodybuilder, a further measure of desired body shape was taken. The photograph of the polar
mesomorphic individual (photograph D -171) was used as a reference to determine if participants wished to be even larger and more muscular than the most mesomorphic photo offered. This was also a way of determining if those who chose this photograph as their self-perceived somatotype and their desired somatotype, and hence were seemingly indicating they were satisfied with their body, were actually dissatisfied because their choice of desired somatotype photos were not mesomorphic enough (i.e. a rating of 8 or 9).

3.3.2.3 Body Perception Distortion

To test if the participants had a distorted perception of their own bodies, the somatotype photograph that they selected will be compared to their actual measured somatotype, thus revealing if these men see their bodies differently to what is objectively measured. By attaining the perceived somatotype from each subject it was possible to see how each internally represents his own body shape. As each photographed physique has a set of predetermined somatotype co-ordinates, as described above, it can also be plotted on the Heath-Carter chart. The fact that these photos have their three somatotype co-ordinates makes it possible to calculate the discrepancy between the actual measured somatotype and the chosen perceived somatotype, and the discrepancy between the perceived and desired somatotypes. However, as mentioned in Chapter 1, rather than examining differences between somatotypes as a whole, the three components (Mesomorphy, Endomorphy and Ectomorphy) will be analysed separately. Body dissatisfaction and body perception distortion will be attained separately for muscle, body fat and body thinness.

3.4 Procedures

3.4.1 Studies One and Two

Prior to commencing the data collection, participants were handed an informed consent form which covered confidentiality, de-identification of data, interviews procedures and that interview recordings would be deleted on completion of analysis. The full informed consent document can be found in Appendix 1. Once participants
agreed to participate, they first individually underwent the anthropometric measurement of somatotype, or type of body shape, which took five to ten minutes. The Heath-Carter Anthropometric Somatotyping technique was used (Heath & Carter, 1967). This produced an objective measure of somatotype, and also served as an enticement for participants to participate, as is explained later in the procedure.

While the somatotype calculations were being made, the participant was presented with a questionnaire. Section One contained the items addressing age, frequency and length of exercise training, the choice of a desired and perceived body shape from the page of photographs, and the scale asking if subjects wished to be larger or smaller than the pure mesomorphic man in photograph D. Somatotypes represented by 14 photographs were presented to the participants who selected the one that most accurately represented their perception of their body shape. Participants were also asked to select the photograph that best represented the somatotype they desired to have. They were then referred to photograph D again and asked if they would like to be equal to, or more or less muscular than, the man in the photograph.

Section Two of the questionnaire was the Muscle Dysmorphia Scale, Section Three was the Body Esteem Scale and finally Section Four was the DASS. At the end of the questionnaire, subjects found a slip explaining Study Three and asking them to write their first name and a contact number if they agreed to be available for the second (interview) part of the study. When the questionnaire was completed, the feedback from the anthropometric measurements was given to each participant.

As mentioned earlier, the feedback provided to subjects, part of the enticement to participate, was presented on the 2-dimensional Heath-Carter Somatochart. Participants could compare graphically on the chart where their actual anthropometric measurements placed them relative to the placement of their perceived body shape and their desired body shape. Also included on the feedback form were several other somatocharts plotting the average somatotypes of various athletes including team sportsmen, track and field athletes and competitive bodybuilders. Thus, participants could compare their position on the chart to those athletes. These other somatocharts included bodybuilders, as mentioned, and Australian Rules footballers. Participants
from these two groups could directly compare their somatotype with the average somatotype of elite men in their own category.

### 3.5 Study Three

#### 3.5.1 Participants

Three randomly selected participants from each group were called back to undergo semi-structured interviews to discuss issues concerning the personal impact of body image. The idea of selecting three participants from each group was to get an idea of the lived context in which men experience their body image from across the whole participant sample, rather than to perform between group comparisons as such. The demographics of the participants are presented in Table 2. All but two were in the 19 to 24 year age bracket, with two bodybuilders in their 30s. Although age was analysed as a variable in Study One, here, in the qualitative study, it means only that participants have more life experience in their lived context.

**Table 2: Study Three Participants/Interviewees**

<table>
<thead>
<tr>
<th>Participant Group</th>
<th>Pseudonym</th>
<th>Age</th>
<th>Participant Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodybuilders</td>
<td>Tim</td>
<td>21</td>
<td>BB4</td>
</tr>
<tr>
<td></td>
<td>Steve</td>
<td>30</td>
<td>BB5</td>
</tr>
<tr>
<td></td>
<td>James</td>
<td>36</td>
<td>BB7</td>
</tr>
<tr>
<td>Footballers</td>
<td>Tommy</td>
<td>19</td>
<td>F2</td>
</tr>
<tr>
<td></td>
<td>Matt</td>
<td>19</td>
<td>F4</td>
</tr>
<tr>
<td></td>
<td>Casey</td>
<td>19</td>
<td>F11</td>
</tr>
<tr>
<td>Controls</td>
<td>Greg</td>
<td>22</td>
<td>C3</td>
</tr>
<tr>
<td></td>
<td>Rick</td>
<td>24</td>
<td>C11</td>
</tr>
<tr>
<td></td>
<td>Danny</td>
<td>18</td>
<td>C13</td>
</tr>
</tbody>
</table>
3.5.2 Procedures

The procedures for the qualitative part of this research were guided by the paper *Using Thematic Analysis in Psychology* by Braun and Clarke (2006) which provides a step-by-step guide for using the analytic framework of Thematic Analysis for the purpose of psychological research. In order to conduct a qualitative study using Thematic Analysis as a methodology, several decisions need to be made. The first is to consider what counts as a theme (p. 82). A theme is not dependant on prevalence across the data set (interviews) to be considered a valid theme. Though prevalence at times will be mentioned (‘the majority of participants’), relevance to the research question is of utmost importance in identifying themes. Specifically: does this theme contribute to the knowledge on how men experience and are impacted by their body image?

The next decision involves whether to broadly and openly obtain a descriptive picture of everything that is found in the whole data set, or to specifically obtain a deeper depiction of specific themes as part of a targeted research question. In the current study, the latter will be the case. The data will be examined for the occurrence of male specific body image characteristics as reflected in the diagnostic criteria of Muscle Dysmorphia (Olivardia, 2001; Pope *et al*., 1997) and the aspect of the Adonis Complex (Pope *et al*., 2000). The contributions of masculinity to how a man experiences his body image will also be targeted by the analysis (Morrison, Morrison & Hopkins, 2003; O’Sullivan & Tiggemann, 1997; Forbes *et al*., 2001; Drummond, 2002).

This leads to the third decision: inductive versus theoretical thematic analysis? (Braun & Clarke, 2006, p. 83). Inductive thematic analysis comes to a data set looking for any theme that might arise from it, completely open to any theme that may be drawn from the data. The themes often bear little resemblance to the researcher’s questions and are not driven by the researcher’s theoretical interest in the topic. On the other hand, a theoretical thematic analysis will look for specific types of themes which have been predetermined by a theoretical framework and are often driven by the researcher’s theoretical or analytical interest in the area. In this type of analysis, only certain types of themes will be drawn from the data: those that pertain to the particular theoretical research question being asked. The present study will specifically be looking for themes...
associated with the occurrence of characteristics akin to those seen in Muscle Dysmorphia and the Adonis Complex, as well as those describing the relationship between masculinity and the body. The study will employ the theoretical thematic analysis method.

This leads to the next decision which looks specifically at the types of themes to be lifted from the data: semantic or latent themes? (Braun & Clarke, 2006, p. 84) Semantic themes directly reflect what a participant is saying in an interview. This means that analysis of a theme does not go beyond its surface meaning and is not looking for anything beyond what an interviewee has said. Latent themes go beyond the semantic meaning in the data and look for the underlying ideas, assumptions, conceptualisations and ideologies which are informing the surface semantic meaning. Interpretation is required to create latent themes where they reflect not just a description of the data but a theorised representation of it. To go along with the theoretical thematic analysis approach being adopted, latent themes will be drawn out of the data in order to identify the specific male centred body image characteristics mentioned above.

The final decision involved in developing this qualitative study design, as recommended by Braun and Clarke (2006, p. 85), is epistemology or type of knowledge we wish to gain from the analysis of the themes. We could discern a simple, direct interpretation of an individual interviewee’s motivation, experience or meaning. This is called realist/essentialist paradigm and leaves the interpretation at the level of the individual. On the other hand, themes could be analysed at a level where socio-cultural contexts or structures are theorised that enable the individual stories that occur in the data to be investigated. This is the constructionist paradigm and seeks to explain individual interviewees’ accounts from social structures that may influence them. The constructionist approach is employed in the current study. In particular, interviewees’ accounts of their experiences of their own body image will be analysed within socio-cultural contexts kept in mind such as masculinity and the characteristics of the male centred body image disorders, the Adonis Complex and Muscle Dysmorphia.

To summarise, Study Three will conduct a thematic analysis of nine interviews (three men from each participant group from Studies One and Two). The interviews will
be analysed with theoretical influences in mind. Notions of masculinity and characteristics of Muscle Dysmorphia and the Adonis Complex will inform the identification and interpretation of themes. However, interesting themes that arise from the data that do not reflect the theoretical context will not be entirely ignored.

3.5.3 The Interviews

As mentioned above, three participants were selected from each of the control group, the bodybuilder group and the footballer group. The controls were interviewed on site at the room on campus used for the quantitative data collection and recorded on a digital recorder. Since the controls were students from the university, it was easier to make an appointment and see them in person. This was not the case with the bodybuilders and footballers. Both these groups were difficult to see in person so interviews were conducted over the phone using a device that could be attached to the land-line phone and plugged into a computer for recording. The footballers were in the middle of pre-season conditioning training to build their strength and fitness, so it was therefore likely that they would have been more focussed on the condition of their bodies than other times of the year.

All participants were asked the same set of questions to enable the investigation of themes across participants. However, there was also room to express their own ideas or take on each issue, and follow-up questions were asked to help with clarification of a point or to further explore an answer. The researcher also drew upon body image related comments participants made during the first part of the study where the anthropometric measurements were taken. This helped focus the discussion and served to check in on body image issues raised earlier. For example, one footballer had mentioned that he needed to gain about 8 kilograms in weight to be competitive in the AFL, and so this was raised in his interview to see his current thoughts and feelings on this.

The questions were drawn from aspects of male centred body image taken from The Adonis Complex (Pope et al., 2000) and Muscle Dysmorphia (Pope et al., 1997, Olivardia, 2001). Other items inquired about the influence of masculinity (O’Sullivan & Tiggemann, 1997; Forbes et al., 2001; Drummond, 2002) and competitiveness
(Drummond, 2002; Phillips & Drummond, 2001) on these men’s body image. The standard questions are:

1. How satisfied are you with your body at the present?
2. What would you want to change about your body? Are muscles important?
3. What would be your ideal body shape and how important is it for you to achieve that?
4. How would life be different if you achieved that body shape?
5. What eating or exercise habits do you do at present to improve your body for looks or performance reasons?
6. How does your body make you feel more or less masculine?
7. Do you feel being overly concerned with your body is a more female concern? Why?
8. How do your feelings about your body impact on the way you see yourself in general?
9. What are you prepared to do in your pursuit of a better body? Are steroids a possibility or diet pills, laxatives etc?
10. How has the desire to improve your body affected your daily life?
11. How competitive do you feel about the appearance of your body as compared to other men, either those men you know or those you see in the street?
12. How competitive do you feel about your performance in the gym or during other exercise activities as compared to the men around you?

Braun and Clarke (2006) also provided step-by-step guidelines for conducting the thematic analysis, from coding to identifying themes to reporting on the themes. These steps were closely followed in the analysis of the current study, as summarised in Table 3. To bolster the validity of the analysis, all interviewees were offered their transcript to approve its content as an accurate reflection of what they had discussed with the researcher. Six took up the offer and provided approval. An independent researcher also reviewed the themes and their collated coded extracts (Step 4) to offer a second opinion on theme creation and naming. The researcher agreed with the themes presented by the study’s author so no changes were necessary. The results of the analysis can be found in Chapter 8.
Table 3: *The Phases of Thematic Analysis*

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description of the process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Familiarising yourself with the data</td>
<td>Transcribing data, reading and re-reading the data, noting down initial ideas.</td>
</tr>
<tr>
<td>2. Generating initial codes</td>
<td>Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.</td>
</tr>
<tr>
<td>3. Searching for themes</td>
<td>Collating codes into potential themes, gathering all data relevant to each potential theme.</td>
</tr>
<tr>
<td>4. Reviewing themes</td>
<td>Checking if the themes work in relation to the coded extracts (level 1) and the entire data set (level 2), generating a thematic map of the analysis.</td>
</tr>
<tr>
<td>5. Defining and naming the themes</td>
<td>Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.</td>
</tr>
<tr>
<td>6. Producing the report</td>
<td>The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.</td>
</tr>
</tbody>
</table>
CHAPTER 4: RESULTS OF STUDY ONE

4.1 The Data

4.1.1 Initial Data Processing

After the raw data was collected, it was first screened to check for any erroneous values. Minimum, maximum and mean values were reviewed for all variables. All minimum and maximum values were in appropriate ranges for the scales that they represented. On inspection, none of the means seemed to be too off of expectations that could indicate some scoring errors. Because of the small size of the data set, it was also proofread to check for errors and none were found.

On further inspection of the data, it was found that < 1% was missing. Because there was less than 5% of data missing on any variable, and, on observation, the errors were randomly occurring (across both participants and items), missing values were simply discarded. This is consistent with the recommendations of Tabachnik and Fidell (2007). Analysis was conducted by excluding cases pair-wise. This meant that participants with missing data from a scale were omitted from any analysis for that scale but included for any other analysis where they had all the required data.

4.1.2 Normality

The next step before attempting any data analysis was to assess the data for normality. This was assessed for each group separately as the distribution of data on dependant variables was expected to vary from group to group. Normality was examined in the controls, footballers and bodybuilders for the Muscle Dysmorphia Scale, the Body Esteem Scale, the DASS, the Total Weekly Exercise and the three subscales of the Body Esteem Scale. Normality was also investigated for age, height, weight, skin-folds, measured Endomorphy, measured Mesomorphy and measured Ectomorphy. Outliers were first identified from box plots and removed, then a Shapiro-Wilk’s W was calculated for each variable in each group, and Skew, Kurtosis and Normal and Detrended Q-Q Plots were examined.
More specifically, when looking at the control group, all the variables were checked for outliers. Outliers here and in all other calculations in Studies One and Two were determined by SPSS 16 when performing the box plot command. The box plot determined outliers to be all those cases that were 1.5 box lengths or greater from the edge of the box, where the box length is defined as the interquartile of the variable containing 50% of cases. Outliers were identified for the DASS (C7), skin-folds (C13, C27), Measured Endomorphy (C13, C27), the Body Esteem subscale Physical Attraction (C20) and the Body Esteem subscale Upper Body Strength (C16). All outliers were removed. When the variables’ distributions were examined, only two variables that returned significant Shapiro Wilk W’s were identified. The first was Total Weekly Exercise (W = .88, p = .008); however, neither the Skewness (-.23) or the Kurtosis (-.32) were particularly large. A review of the control group’s Normal and Detrended Q-Q plots showed very near normal distributions. The other variable was Age (W = .87, p = .005); however, Kurtosis (.98) and Skew (1.10) were small and the Normal and Detrended Q-Q plots indicated a near normal distribution. Given this the data from these variables were left in its raw form.

The variables in the footballer group were also checked for outliers. Outliers were identified for age (F6), skin-folds (F1), height (F1), measured Endomorphy (F1), measured Mesomorphy (F1, F6, F12, FD13) and the Body Esteem subscale physical conditioning (F2). All the outliers were removed, and the variable distributions were then reviewed. Only two variables returned significant Shapiro Wilk W’s. The first was the DASS (W = .84, p = .011); however, the Skewness (.95) was moderate and the Kurtosis (-.50) was small. On reviewing the Normal and Detrended Q-Q plots, the distributions also seemed near normal. The second variable was age (W = .87, p = .042). For age the Kurtosis (.16) and Skew (.00) were very small; in addition, the Normal and Detrended Q-Q plots revealed near normal distributions. Given this, the data from these variables was left in its raw form.

The bodybuilder data received the same treatment, with outliers being identified for the DASS (B8), The Body Esteem subscale Upper Body Strength (B5), Measured Ectomorphy (B4) and weight (B7). Once these were removed, the distributions of all the
variables for the bodybuilder group were reviewed. The only variable to return a significant Shapiro Wilk W was Measured Ectomorphy (W = .78, p = .004). However, the Skewness (.44) and Kurtosis (-.34) for Measured Ectomorphy for the bodybuilders were both small, and an inspection of the Normal and Detrended Q-Q Plots revealed near normal distributions. Again, because of this, the data from these variables was left in its raw form.

4.2 The Participants

While the composition of the participant groups has been touched on in the Method section of this thesis, further description is warranted. The three groups were drawn from very specific backgrounds, two of which it can be reasonably assumed place great importance on various aspects of the physical characteristics of their bodies. In particular, it is quite reasonable to expect that not only the importance of but also the actual physicality of the bodybuilders, footballers and controls (first year psychology students) will vary from each other. Table 4 summarises the mean age, somatotype ratings, frequency of exercise and other anthropometric measures. In this section, the differences between the groups were examined on these physical traits, but because none of these differences were predicted in hypothesis, a Bonferroni adjustment was made (as recommended by Tabachnik and Fidell, 2007) to the significance levels of the t-tests so that p < .017 was the minimum required for significance as opposed to p < .05 (i.e. .05 divided by 3 = .017, because there are three participant groups and therefore three comparisons made ad hoc).
Table 4: *Summary of Means and Standard Deviations for the Physical Traits of the Three Subject Groups*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Controls</th>
<th>Bodybuilders</th>
<th>Footballers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>21.08</td>
<td>27.64</td>
<td>19.67</td>
</tr>
<tr>
<td></td>
<td>3.05</td>
<td>5.64</td>
<td>0.98</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>175.86</td>
<td>176.86</td>
<td>186.85</td>
</tr>
<tr>
<td></td>
<td>9.58</td>
<td>8.58</td>
<td>7.09</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>71.30</td>
<td>84.17</td>
<td>85.86</td>
</tr>
<tr>
<td></td>
<td>12.35</td>
<td>9.80</td>
<td>6.22</td>
</tr>
<tr>
<td>Sum of Skin-folds (mm)</td>
<td>41.40</td>
<td>38.44</td>
<td>34.48</td>
</tr>
<tr>
<td></td>
<td>13.53</td>
<td>12.51</td>
<td>7.12</td>
</tr>
<tr>
<td>Measured Endomorphy</td>
<td>4.17</td>
<td>3.93</td>
<td>3.54</td>
</tr>
<tr>
<td></td>
<td>1.28</td>
<td>1.21</td>
<td>0.69</td>
</tr>
<tr>
<td>Measured Mesomorphy</td>
<td>4.46</td>
<td>6.43</td>
<td>4.9</td>
</tr>
<tr>
<td></td>
<td>1.27</td>
<td>1.24</td>
<td>1.24</td>
</tr>
<tr>
<td>Measured Ectomorphy</td>
<td>2.68</td>
<td>0.85</td>
<td>2.40</td>
</tr>
<tr>
<td></td>
<td>1.36</td>
<td>0.32</td>
<td>0.95</td>
</tr>
<tr>
<td>Total Weekly Exercise (hours)</td>
<td>3.41</td>
<td>5.61</td>
<td>7.98</td>
</tr>
<tr>
<td></td>
<td>3.25</td>
<td>2.31</td>
<td>2.80</td>
</tr>
</tbody>
</table>

4.2.1 *Age*

With a mean age of 27.64 (SD = 5.64), the bodybuilders were older than the other two groups. The control group (Mean 21.08, SD = 3.05) were of a similar age to the footballers (Mean 19.76, SD = 0.98). The age range in the controls and bodybuilders was similar (11 and 16 respectively), although the controls were skewed towards the younger end. In comparison, the footballers had a very narrow age range of only 4. To test the significance of the difference between the means of these groups, a one-way between groups analysis of variance was calculated; F(2, 50) = 21.18, p < .001. With a $\eta^2 = .46$, the actual difference was quite large, according to the guidelines of Cohen (1977), where .01 is small, .09 is medium and .25 is considered a large effect size. Since the result was significant, differences between the groups were examined further using uncorrected two-tailed t-tests. The bodybuilders were significantly older than the controls, $t(37) = 4.74$, p < .001, $\eta^2 = 0.38$, and the footballers, $t(26) = 5.36$, p < .001, $\eta^2 = 0.52$. The footballers, however, were not significantly different from the controls, $t(37) = 1.89$, p = .07.
It is worth noting that the three t-tests carried out here and 11 others across Studies One and Two violated the equal variances assumption, but our data is such that the t-test is considered robust enough under these circumstances (Howell, 2002, p. 323). The ANOVA and t-tests for age are presented in Table 5 along with a summary of all the other statistical comparisons presented in Study One.

Table 5: A Summary of All the Statistical Comparisons Conducted in Study One

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>ANOVA p value</th>
<th>BB vs. C</th>
<th>FB vs. C</th>
<th>BB vs. FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>&lt; .001</td>
<td>✗ ****</td>
<td>X</td>
<td>✗ ****</td>
</tr>
<tr>
<td>Height</td>
<td>&lt; .001</td>
<td>X</td>
<td>✗ ****</td>
<td>✗ ---</td>
</tr>
<tr>
<td>Weight</td>
<td>&lt; .001</td>
<td>✗ ***</td>
<td>✗ ****</td>
<td>X</td>
</tr>
<tr>
<td>Sum of Skin-Folds</td>
<td>.24</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Measured Endomorphy</td>
<td>.26</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Measured Mesomorphy</td>
<td>&lt; .001</td>
<td>✗ ****</td>
<td>X</td>
<td>✗ ***</td>
</tr>
<tr>
<td>Measured Ectomorphy</td>
<td>&lt; .001</td>
<td>✗ ----</td>
<td>X</td>
<td>✗ ----</td>
</tr>
<tr>
<td>Total Weekly Exercise</td>
<td>&lt; .001</td>
<td>X</td>
<td>✗ ****</td>
<td>X</td>
</tr>
<tr>
<td>Muscle Dysmorphia</td>
<td>&lt; .001</td>
<td>✗ ****</td>
<td>✗ ***</td>
<td>✗ *</td>
</tr>
<tr>
<td>DASS</td>
<td>F &lt; 1</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Body Esteem</td>
<td>&lt; .05</td>
<td>✗ **</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Physical Conditioning</td>
<td>&lt; .05</td>
<td>✗ *</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Upper Body Strength</td>
<td>&lt; .001</td>
<td>✗ ****</td>
<td>X</td>
<td>✗ ***</td>
</tr>
<tr>
<td>Physical Appearance</td>
<td>F &lt; 1</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Group 1 is greater than group 2: *p < .05, **p < .01, ***p < .005, ****p < .001
Group 1 is less than group 2: - p < .05, -- p < .01, --- p < .005, ---- p < .001

= significant t-test comparison, X = non-significant, O = no comparison was made, BB = bodybuilders, C = controls, FB = footballers

4.2.2 Height

Reviewing Table 4, it is evident that the footballers were taller than the other two groups. To examine this, a one-way between groups analysis of variance was conducted. The results showed a significant difference, F(2, 51) = 8.1, p < .001, \( \eta^2 = .24 \). Independent samples t-tests were performed to determine the significance of the differences. There were two significant differences. Firstly, the footballers (M = 186.85, SD = 7.09) were significantly taller than the controls (M = 175.86, SD = 9.58); t(38) = 3.85, p < .001, \( \eta^2 = .28 \). They were also significantly taller than the bodybuilders (M = 176.86, SD = 8.58); t(27) = 3.43, p < .005, \( \eta^2 = .30 \). The controls’ and bodybuilders’ heights were not significantly different from each other, t < 1.
4.2.3 Weight

Looking at the means for weight in Table 4, the footballers and bodybuilders were both heavier than the controls. To examine these differences, a one-way between groups ANOVA was conducted. The results showed that there was a significant difference: $F(2, 51) = 11.96, p < .001, \eta^2 = 0.32$ between the groups. Independent samples t-tests were performed to determine the significance of the difference between each of the groups. Again there were two significant differences. The bodybuilders ($M = 84.17, SD = 9.80$) were significantly heavier than the controls ($M = 71.30, SD = 12.35$); $t(37) = 3.35, p < .005, \eta^2 = .23$. The footballers ($M = 85.86, SD = 6.22$) were also significantly heavier than the controls; $t(38) = 4.24, p < .001, \eta^2 = .32$. There was no significant difference between the weight of the bodybuilders and footballers, $t < 1$.

4.2.4 Skin-folds

The sum of skin-folds is a measure that indicates the percentage of participants’ bodies that is composed of body fat. The resulting value is used to help calculate two different somatotype components, measured Endomorphy and measured Mesomorphy. While the results in Table 4 show that the mean skin-folds for the footballers was the lowest and the controls the highest, there was no statistical significance between the groups, $F(2, 48) = 1.49, p = .24$.

4.2.5 Measured Endomorphy

Endomorphy (i.e. degree of fatness) ratings for each group showed the same pattern as described above for skin-folds; with the footballer mean the lowest and the controls mean the highest. This is not surprising considering sum of skin-folds is used to help calculate Endomorphy. Also of no surprise then is that none of the groups significantly differ from each other on Endomorphy, $F(2, 48) = 1.38, p = .26$. 
4.2.6 Measured Mesomorphy

Again, as can be seen in Table 4, the results examining Measured Mesomorphy (i.e. muscularity), as was expected, show that the bodybuilders had a higher mean Mesomorphy rating than the other two groups. A one-way between groups ANOVA was conducted to determine the statistical significance of differences between the groups on Measured Mesomorphy: $F(2, 51) = 11.26, p < .001, \eta^2 = .31$. Independent samples t-test were performed to examine the differences between each group on Mesomorphy. Once again there were two significant differences. The results showed that bodybuilders ($M = 6.43, SD = 1.24$) were significantly more muscular than the control group ($M = 4.46, SD = 1.27$); $t(37) = 4.68, p < .001, \eta^2 = .37$. The bodybuilders were also more muscular than the footballers ($M = 4.90, SD = 1.24$); $t(27) = 3.32, p < .005, \eta^2 = .29$. There was no significant difference on Measured Mesomorphy between the controls and the footballers, $t(38) = 1.07, p = .29$.

4.2.7 Measured Ectomorphy

Table 4 shows that the bodybuilders had a much lower mean Measured Ectomorphy (i.e. thinness of body) rating than did the other groups. This means that they were less skinny, as a group, than the other two. A one-way between groups ANOVA was conducted to investigate the statistical significance of these differences: $F(2, 50) = 12.91, p < .001, \eta^2 = .34$. Once again independent samples t-tests were used to examine the significance of the differences between each of the groups. There were two significant differences. The bodybuilders ($M = 0.85, SD = 0.32$) had significantly lower Ectomorphy ratings than the controls ($M = 2.68, SD = 1.36$); $t(36) = 4.76, p < .001, \eta^2 = .39$. They also had a significantly lower Ectomorphy rating than the footballers ($M = 2.40, SD = 0.95$); $t(26) = 5.63, p < .001, \eta^2 = .55$. There was no significant difference on Measured Ectomorphy between the controls and the footballers, $t < 1$. 
4.2.8 Total Weekly Exercise

The questionnaire items that asked participants how many days, on average, a week they would exercise to improve their physique and how many hours, on average, they exercised on those days were combined to create the variable of Total Weekly Exercise, measured in hours. Combining the frequency measure of days per week exercised with the quantity measure of hours per day provided an indication of the volume of exercise regularly performed. Looking at Table 4, it can be seen that the controls reported the least amount of exercise, while the footballers the most. A one-way between groups ANOVA was conducted to see if any of these group differences were significant: F(2, 51) = 11.67, p < .001, η² = .31. Again independent samples t-tests were performed to determine the statistical significance of the differences between each group. The footballers (M = 7.98, SD = 2.80) exercised more than the controls (M = 3.41, SD = 3.25); t(38) = 4.52, p < .001, η² = .35. However, considering the Bonferroni adjustment, they did not differ from the bodybuilders (M = 5.61, SD = 2.31) on exercise frequency; t(27) = 2.47, p = .02, η² = .18. The bodybuilders, in turn, also did not differ from the controls; t(37) = 2.23, p = .032, η² = .12.

4.2.9 Summary

With regard to the group differences of statistical significance, several conclusions can be made about the sample in this study. The footballers were much taller than the bodybuilders and the controls. The footballers and the bodybuilders were both heavier than the controls, and the bodybuilders were much musclier than both the footballers and controls. As expected, the bodybuilders were also by far the least skinny of the three. In terms of time spent exercising, the footballers reported the most weekly exercise, followed by the bodybuilders and then the controls; however, the bodybuilders were not significantly different from either group. There were no significant differences between the groups on their body fat, which is surprising considering the controls exercised far less than the other two.
4.3 The Scales

The internal reliability of each of the scales in this questionnaire was examined across the entire sample, using Cronbach’s Alpha. The two established scales, as expected, showed good reliability. In particular, the Franzoi and Shields (1984) Body Esteem Scale, where participants report on their feelings about various body parts and body functions, showed good reliability (Cronbach’s Alpha = .925). The three subscales of the Body Esteem Scale: upper body strength (Cronbach’s Alpha = .894), physical attractiveness (Cronbach’s Alpha = .836) and general physical condition (Cronbach’s Alpha = .863) also showed high reliability with this sample. Lovibond and Lovibond’s (1993) Depression Anxiety and Stress Scale (DASS) as a whole (Cronbach’s Alpha = .92) was also highly reliable. This scale, as was explained in Chapter 2, will be used as a whole scale as opposed to its component scales of Depression, Anxiety and Stress.

The Muscle Dysmorphia Scale was a newly created scale (see Chapter 2), thus it was crucial to see how well each item correlated with the entire scale to determine if, as a collection of items, the scale was a reliable measure. A Cronbach’s Alpha was calculated using all but the two discarded items identified in Chapter 2. The results showed reasonable reliability for this scale (Cronbach’s Alpha = .74).

4.4 Hypotheses

4.4.1 Hypothesis One: The Relationship Muscle Dysmorphia Has with Body Affect, Psychological Distress and Exercise

The first hypothesis of the current research looks at how characteristics of Muscle Dysmorphia, as measured by the Muscle Dysmorphia Scale, relate to the other variables. The first relationship investigated was between Muscle Dysmorphia and Body Affect (as measured by the Body Esteem Scale). A simple correlation showed that no significant relationship was found; r = .094, n = 54, p = .50 (see Figure 1). We also examined the three subscales of Body Esteem separately. Unlike the whole scale, there was a significant relationship between Muscle Dysmorphia and the Body Esteem subscale Upper Body Strength; r = .28, n = 52, p < .05. Given that this was a positive
correlation, it means that as participants reported more positive feelings about the function of their upper body, they also reported higher scores on the characteristics of Muscle Dysmorphia. Interestingly, this is in the opposite direction as to what was predicted. The other two subscales, Physical Conditioning (r = .13, n= 52, p = .36) and Physical Attractiveness (r = .04, n = 52, p = .79), were not related to Muscle Dysmorphia.

![Muscle Dysmorphia and Body Esteem Scatter Plot](image)

**Figure 1:** Muscle Dysmorphia and Body Esteem Scatter Plot

The next relationship to be investigated was the one between Muscle Dysmorphia and Psychological Distress, as measured by the (DASS. The Pearson correlation coefficient calculated from these two measures was examined, and a marginally significant result was found; r = .27, n= 52, p = .054.

The final relationship investigated was between Muscle Dysmorphia and subjective reports of Total Weekly Exercise. A Pearson correlation coefficient showed that there was a rather strong positive relationship between these two measures; r = .41, n = 54, p < .01. This means that as participants reported exercising more they also reported higher scores on the Muscle Dysmorphia characteristics. This and all other
correlations conducted between Muscle Dysmorphia and the other variables are summarised in Table 6.

Table 6: A Summary of the Correlations Conducted in Study One

<table>
<thead>
<tr>
<th></th>
<th>DASS Total</th>
<th>Weekly Exercise</th>
<th>Body Esteem</th>
<th>Physical Conditioning</th>
<th>Upper Body Strength</th>
<th>Physical Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle Dysmorphia</td>
<td>.27</td>
<td>.41 **</td>
<td>.094</td>
<td>.13</td>
<td>.28*</td>
<td>.04</td>
</tr>
</tbody>
</table>

*p< .05, **p< .01,

In summary, those who report higher frequencies of Muscle Dysmorphia characteristics also feel more positively about their Upper Body Strength and report more frequent weekly exercise. The relationship between characteristics such as Physical Attractiveness, Physical Conditioning and the DASS appears to be weak.

4.4.2 Hypothesis Two: Comparing the Groups on Muscle Dysmorphia

To examine the second hypothesis of this study, how the three experimental groups compared on Muscle Dysmorphia scores was examined. It was predicted that both the bodybuilders and footballers would score higher on the Muscle Dysmorphia Scale as compared to the control group. To investigate the differences between these groups, a one-way between groups ANOVA was conducted, which was significant, F(2, 51) = 15.31, p < .001, η² = .38. To examine the significance of the differences between each of the groups on Muscle Dysmorphia scores, t-tests were performed.

The results of the t-tests showed that the bodybuilders (M = 40.71, SD = 9.34) scored significantly higher on the Muscle Dysmorphia Scale than the controls (M = 27.32, SD = 6.89); t(37) = 5.12, p < .001, η² = .41, as did the footballers (M = 34.67, SD = 6.13), t(38) = 3.40, p < .005, η² = .23. Finally, a post hoc independent samples t-test revealed that the bodybuilders also had higher reported Muscle Dysmorphia than the footballers, t(27) = 2.08, p < .05, η² = .14. These results were as predicted and can be seen in Figure 2.
Both the t-test results and Figure 1 indicate that the bodybuilders reported higher Muscle Dysmorphia scores than either the control group or the other experimental group, the footballers. They also scored higher than the controls on Muscle Dysmorphia. Thus, as predicted, the experimental groups reported higher Muscle Dysmorphia than the controls.

### 4.4.3 Hypothesis Three: Comparing the Groups on Body Affect

The third hypothesis involved comparing the three groups on Body Affect and how they felt about various body parts and functions, as measured by the Body Esteem Scale. It was predicted the bodybuilders and footballers would report poorer body affect than the control group. This was initially investigated by performing a one-way between groups ANOVA. The results showed that there was a significant difference $p < .05$ level; $F(2, 51) = 4.42, \eta^2 = .15$. Although the results of the ANOVA were significant, the finding was the least robust in the analysis of our main hypotheses, at least in terms of significance levels. However, we decided to further investigate the pattern. In this respect, independent samples t-tests were used to examine the significance of the differences between each group.

The results showed that the bodybuilders (M = 135.29, SD = 15.86) had significantly higher Body Esteem than did the controls (M = 118.84, SD = 17.33); $t(37) = 2.93, p < .01, \eta^2 = .19$. The footballers’ (M = 123.2, SD = 16.2) Body Esteem score, while higher, was not significantly different from the controls; $t(38) = .79, p = .44$. The bodybuilders also had higher Body Esteem than the footballers when a post hoc comparison was conducted, and though it approached statistical significance, it was not significantly different; $t(27) = 2.03, p = .053$. Mean results appear in Figure 2.
4.4.4 Hypothesis Four: Comparing the Groups on Body Esteem Subscales Physical Conditioning and Upper Body Strength

The fourth hypothesis of this study further examined Body Esteem. As mentioned in Chapter 2, the Body Esteem Scale can be broken into three subscales. One of them, Physical Attractiveness, looks at the physical form. The other two, Physical Conditioning and Upper Body Strength, look at physical functioning. The fourth hypothesis predicts that the footballers, whose physical pursuits are focussed more on physical function rather than solely on form like the bodybuilders, will score lower on Physical Conditioning and Upper Body Strength than the other groups.

Firstly, to examine physical conditioning, a one-way between groups ANOVA was conducted and found to be significant, \( F(2, 50) = 3.80, p < .05, \eta^2 = .13 \). Independent samples t-tests were conducted to further investigate the differences in physical conditioning scores between the footballers and the other groups. The footballers (\( M = 47.93, SD = 5.85 \)), though reporting higher physical conditioning scores than the controls (\( M = 44.68, SD = 7.98 \)), did not differ significantly to them, \( t(37) = 1.33, p = .19 \). This result was not predicted. In comparison to the bodybuilders...
(M = 51.14, SD = 6.51), the footballers had lower physical conditioning scores as predicted. However, the difference was not significant either, t(26) = 1.37, p = .18. Though not part of the hypotheses, the bodybuilders did have significantly higher physical conditioning scores than did the controls; t(37) = 2.58, p < .05, η² = .15. This was not predicted. In summary, in regards to the variable of physical conditioning, the footballers only scored lower than the bodybuilders and not the controls, although the difference was not significant (see Figure 3).

The subscale Upper Body Strength was examined next. A one-way between groups ANOVA was conducted: F(2, 49) = 11.42, p < .001, η² = .32. Once again, independent samples t-tests were conducted to investigate the difference between the footballers and the other groups on scores of Upper Body Strength. There turned out to be no significant difference between the footballers (M = 33.27, SD = 5.57) and the controls (M = 30.79, SD = 5.41); t(37) = 1.37, p = .18. This was not as predicted. However, the footballers did have significantly lower Upper Body Strength scores than the bodybuilders (M = 39.31, SD = 4.17); t(26) = 3.2, p < .005, η² = .28. This result was as predicted.

**Figure 3:** Mean Physical Conditioning, Upper Body Strength and Physical Attractiveness Scores by Group
Again, although this was not part of the hypotheses, a post hoc comparison showed that the bodybuilders reported significantly higher Upper Body Scores than did the controls, $t(35) = 4.92$, $p < .001$, $\eta^2 = .41$. Thus Hypothesis Four gained some further partial support by the footballers reporting significantly lower Upper Body Strength scores than the bodybuilders but not the controls (see Figure 3).

### 4.4.5 Hypothesis Five: Comparing the Groups on Body Esteem Subscale Physical Attractiveness

The fifth hypothesis looked at the Physical Form side of the Body Affect as measured by the Physical Attractiveness subscale of the Body Esteem Scale. It was predicted that the bodybuilders, whose physical pursuits require detailed scrutiny of the physical form they are building, would score lower on the Physical Attractiveness subscale than the other two groups. To investigate this, a one-way between groups ANOVA was conducted. There turned out not to be a significant difference; $F < 1$. Not only was there a non-significant result but, on reviewing each group’s means, the bodybuilders ($M = 39.93$, $SD = 6.37$) had higher scores than both the controls ($M = 36.67$, $SD = 4.99$) and the footballers ($M = 37.07$, $SD = 5.27$) as seen in Figure 3.

### 4.4.6 Hypothesis Six: Comparing the Groups on Psychological Distress

The sixth hypothesis looked at the difference between the groups on the measure of Psychological Distress, namely, the DASS. It was predicted both the bodybuilders and footballers would score higher than the controls. In order to investigate this hypothesis a one-way between groups ANOVA was conducted. This produced a non-significant result, $F < 1$. Though the ANOVA was non-significant, the bodybuilders’ mean score ($M = 20.69$, $SD = 9.53$) was higher than the controls ($M = 18.88$, $SD = 11.63$), which was in the predicted direction. The footballers had the lowest mean ($M = 18.07$, $SD = 16.92$), which was not in the predicted direction, as can be seen from Figure 2.
CHAPTER 5: DISCUSSION OF STUDY ONE

5.1 Overview

Overall, the data produced some support for some of the six hypotheses in Study One. The first hypothesis examined how Muscle Dysmorphia related to other variables. It was predicted that Muscle Dysmorphia would be negatively related to Body Esteem, the measure of body affect, in that as reported Muscle Dysmorphia increased, reported body related feeling would become less positive. The results showed there was no significant relationship between these variables.

Though there was no relationship with Body Esteem, on further investigation, it was found that Muscle Dysmorphia was related to one of the Body Esteem subscales, namely, Upper Body Strength. There was a positive relationship between these variables, which means that as participants reported increased Muscle Dysmorphia characteristics, they also reported more positive feelings about their upper body. This is the opposite of the prediction that increased Muscle Dysmorphia would be associated with more negative feelings about the upper body.

Muscle Dysmorphia was also predicted to be related to Psychological Distress. It was predicted that higher Muscle Dysmorphia would be related to higher Psychological Distress, as measured by the DASS. The results showed that there was no significant relationship between these two variables.

The final relationship examined with Muscle Dysmorphia was how it related to the exercise frequency. It was predicted those with higher Muscle Dysmorphia would also exercise more. The results confirmed this, with those reporting higher levels of Muscle Dysmorphia also reporting higher amounts of Total Weekly Exercise. So, overall, those men in this study who were higher on Muscle Dysmorphia also felt more positively about their upper body and exercised more frequently.

This study also looked at the differences between three groups – bodybuilders, Australian Rules footballers and a set of controls – on several variables. The first group
comparison was of Muscle Dysmorphia. It was predicted that the bodybuilders and footballers would score higher on than the controls. The results were as predicted, where the two experimental groups had higher Muscle Dysmorphia than the controls. The bodybuilders had the highest Muscle Dysmorphia.

The groups were also compared on how they felt about their bodies, or body affect, as measured by the Body Esteem Scale. It was predicted that the controls would have higher, or more positive, Body Esteem than the experimental groups. The results turned out to be the opposite as predicted, with bodybuilders having the highest Body Esteem. The footballers did not differ from the controls. This suggests that the bodybuilders feel the most positively about the form and function of their bodies.

The Body Esteem of the groups was also compared via its three subscales: physical conditioning, upper body strength, and physical attractiveness. Physical conditioning, as the name suggests, is primarily concerned with the feelings people have over the physical functioning of their body. With the sporting pursuits of the footballers being primarily about physical functioning, it was predicted they would have lower esteem around their physical conditioning than either the controls or the bodybuilders. In actuality, the footballers were no different to the bodybuilders or controls. In a result extraneous to the prediction, the bodybuilders had more positive feelings about their Physical Conditioning than the controls.

The second of the Body Esteem subscales is Upper Body Strength, which is also concerned with physical functioning. The prediction was that the footballers would have a lower esteem about their Upper Body Strength than the bodybuilders. The prediction was partly supported by the data. The footballers did indeed have lower Upper Body Strength esteem than the bodybuilders. However, in opposition to the prediction, the footballers had higher esteem about their Upper Body Strength than did the controls. Another extraneous result to the study’s prediction was that the bodybuilders had higher Upper Body Strength esteem as compared to the controls.

The third and final of the Body Esteem subscales was Physical Attractiveness which concerns itself with physical form. The prediction was that the bodybuilders,
whose physical pursuits concerned themselves with the detailed building of their physiques, would have lower Physical Attractiveness esteem than the other two groups. This study found, however, that there was no difference between the groups on this variable.

The final predicted difference between the three groups was concerning Psychological Distress as measured by the DASS. It was predicted that the footballers and the bodybuilders would have higher levels of Psychological Distress than did the controls. The results of this study showed there was no difference between the groups on Psychological Distress.

5.2 Muscle Dysmorphia

One of the core purposes of this study was to examine the occurrence of characteristics of the body image disorder Muscle Dysmorphia in two differing groups of men and in a group of comparison men. Australian Rules footballers were chosen because their physical pursuits and training are more concerned with the functioning and performance of the body; while bodybuilders were chosen as their physical pursuits are primarily focussed on building the ‘ideal’ physical form. Muscle Dysmorphia, as described by Olivardia (2001), is best described as an almost obsessive drive to increase one’s body’s musculature in an attempt to reach an ideal lean muscular physique. The demands of both bodybuilding and Australian Rules football could lead to the kinds of obsession described by Olivardia.

5.2.1 Muscle Dysmorphia, Body Affect, Psychological Distress and Exercise Frequency

Another major aim of this study was to show that those reporting poor body image as characterised by aspects of Muscle Dysmorphia would also report emotional and psychological impacts. It was argued that unlike other research on the psychological and emotional impact of poor body image on men (Furnham & Graves, 1994; Koenig & Wasserman, 1995; Wade & Cooper, 1999; Stice & Bearman, 2001), which looked solely at general populations such as students and found males were less impacted than
females, this study investigated these variables in men whose physique may have more salience to them than the normal population. This was done because we were interested in investigating whether these men would be more at risk of developing an obsessive pursuit of their ideal physique and also more at risk of experiencing distress at the notion that their self-perceived body was different from their ideal.

The study investigated this by examining the relationship between the characteristics of Muscle Dysmorphia and psychological disturbance as measured by the DASS. It was found that Muscle Dysmorphia was not significantly related to the DASS. However, whilst the result was weak, it was in the expected direction, and it is therefore possible that with a larger sample a significant relationship may have been found. In addition, the DASS asks a participant how much the various items applied to them over the last week. While the control group consisting of university students scored the lowest on Muscle Dysmorphia, it is possible that something confounding like study stress may have elevated their DASS scores. The appropriateness of the use of first year psychology students as controls will be discussed later in this thesis.

Although the results were not as predicted, it is worth mentioning here the potential psycho-protective effect that exercise could have in this sample. Research has shown that moderate exercise, both aerobic and resistance training like lifting weights, can have an effect on improving mood, especially anxiety (Raglin, 1990; Paluska & Schwenk, 2000; Salmon, 2001; Peluso & Guerra de Andrade, 2005), depression (Paluska & Schwenk, 2000; Salmon, 2001; Peluso & Guerra de Andrade, 2005) and stress (Salmon, 2001). In particular, improvements in mood have been shown to be more associated with moderate than intense exercise (Raglin, 1990; Peluso & Guerra de Andrade, 2005), with intense exercise being linked to negative mental health outcomes including over-training syndrome, excessive exercising and mood disturbance. The fact that most of the bodybuilders were non-competitive and that the footballers were amateur grade may have meant that their physical pursuits protected them from scoring higher on the DASS even though they scored higher on Muscle Dysmorphia.

In the current sample, the lack of relationship between Muscle Dysmorphia and the DASS may also be due to the lack of serious athletes in the groups. Only three of the
bodybuilders were competitive, and the footballers were taken from the Victorian Football League which is the league just under the elite professional Australian Football League. Our argument was that these groups would experience particular pressure, due to the nature of their physical pursuits, to attain an ideal physique which in turn may increase the likelihood that any experience of poor body image might have an impact on psychological health. However, it may be that the men in the present sample did not experience sufficient pressure to attain a particular physique to experience the predicted body image impacts. So it could be suggested that when men exercise recreationally or at a sub-elite level, any occurrence of Muscle Dysmorphia may not necessarily be associated with subjective Psychological Distress. They may prefer a better body but it does not appear to upset them too much.

While the Muscle Dysmorphia measure looked more at the cognitions and behaviours associated with striving for the ideal body, the affect component to poor body image was also investigated. The delineation between the cognitive and affective aspects of body image was looked at by Wade and Cooper (1999) who found that, unlike in women, men had no cognitive or affective links to their bodies in reference to their self-perceived attractiveness. This was not the case in other studies such as O’Sullivan and Tiggemann (1997) which found a link between an early incarnation of Muscle Dysmorphia called Reverse Anorexia and self-esteem, where those reporting characteristics of Reverse Anorexia also reported lower self-esteem. The present study explored the relationship between Muscle Dysmorphia and body affect as measured by the Body Esteem Scale. It turned out that no relationship existed. It is not clear why men who scored high on Muscle Dysmorphia, which covers thoughts and behaviours associated with poor body image, did not also score low on Body Esteem, which looks at how positively or negatively one feels about various aspects of their body and its functioning. Again, it may just mean that these men acknowledge that they want a better body, and are making some attempts to improve their body, but this may not impact them emotionally. Such a finding would echo those found by several researchers cited in the introduction: Santor et al. (1994), Stice and Bearman (2001), Koenig and Wasserman (1995), Wade and Cooper (1999) and Furnham and Graves (1994).
Although there was no relationship between Muscle Dysmorphia and Body Esteem, there was with one of the Body Esteem subscales. As Muscle Dysmorphia increased, so did positive feelings about Upper Body Strength. Franzoi and Shields (1984) state that the Body Esteem subscale Upper Body Strength is characterised as upper body parts and functions that can be changed through exercise. So why is it that as the men in this study felt more positively about their upper body parts and functions, they also experienced more characteristics of Muscle Dysmorphia? This result was unexpected. It is possible that it represents a differentiation between the thoughts and behaviours represented by the Muscle Dysmorphia measure and the affect represented by the Body Esteem measure, as mentioned above. Another possibility is that these men were more comfortable reporting on thoughts and behaviours than feelings, and thus more objective and emotionally detached when it came to rating their feelings about their upper body, especially considering more than half of this sample were athletes with objectively well trained upper bodies. It may also be further evidence that the behaviours and attitudes reported reflected in the Muscle Dysmorphia Scale are not, in fact, associated to body affect. So despite scoring high on the Muscle Dysmorphia Scale, these men also felt positively about their upper bodies. Something else worth mentioning is that this is a new scale and, though it has reasonable reliability, it is still to be validated.

The only variable that had a relationship with Muscle Dysmorphia that was in the predicted direction was exercise frequency as measured by Total Weekly Exercise. There was a positive relationship such that those who exercised more frequently scored higher on Muscle Dysmorphia. This is not surprising, considering that a typical behavioural consequence of Muscle Dysmorphia is to over-exercise (Olivardia, 2001; Peluso & Guerra de Andrade, 2005). It also suggests that in this sample there are men who experience a drive to attain the ideal body and experience body dissatisfaction as is characteristic of Muscle Dysmorphia who also exercise frequently as a result.

5.2.2 Muscle Dysmorphia and the Bodybuilders

It was found that the bodybuilders experienced characteristics of the disorder Muscle Dysmorphia, which supports the work of Hizeroth and associates (2001) where
more than half of their bodybuilder sample met the criteria for Muscle Dysmorphia. In considering the results of Hizeroth et al. (2001) it is unsurprising that in the present study the bodybuilders reported the most characteristics of Muscle Dysmorphia as compared to the footballers and controls. This means the bodybuilders reported the biggest negative impact on their pursuit of the ideal body. Despite this negative impact, they had the highest measured Mesomorphy rating, meaning they had the greatest amount of muscle free of body fat, which is not surprising given that this is the purpose of their pastime. So despite the fact that the bodybuilders had put much effort and training into what has been objectively measured in this study to be a lean and muscular physique, they reported more body dissatisfaction and emotional, cognitive and behavioural impacts of Muscle Dysmorphia.

5.2.3 Muscle Dysmorphia and the Footballers

The Australian Rules footballers were included in this study as men whose sporting pursuit was focussed on elite performance, function over form. They participate in one of the most popular, high profile and financially lucrative sports in Australia. The men in this study were of the junior elite with realistic aspiration to be drafted into the elite professional league. This aspirational drive may lead to the types of obsession described by Olivardia (2001) in relation to Muscle Dysmorphia. In fact, the footballers reported experiencing more Muscle Dysmorphia characteristics when compared to the control group of first year psychology students. Though not scoring as high on this as the bodybuilders, they still outscored the controls. Of all the groups, the footballers exercised the most and were the leanest. They were also more muscular than the controls. The phenomenon of Muscle Dysmorphia has not been examined in Australian Rules footballers before. This study shows that despite them being leaner and training harder than the control group, they still reported more characteristics of Muscle Dysmorphia such as body dissatisfaction and related emotional, cognitive and behavioural impacts. So one thing that can be concluded from this study is that, at least for the men in this sample, footballers and bodybuilders do experience characteristics of Muscle Dysmorphia above what other men do.
The weak yet significant difference between the bodybuilders and the footballers on Muscle Dysmorphia, though part of the hypothesis, may suggest a difference in body image impact between men who exercise solely to improve their physique (i.e. bodybuilders) and those whose physical training is designed predominately to improve their physical functioning or sporting performance (i.e. footballers). This could be investigated in future research.

5.3 Body Affect

As mentioned above, body affect or the emotional evaluation of one’s self-perceived body was another variable investigated. While it has turned out that, unlike what was predicted, body affect was not related to Muscle Dysmorphia, this study also sought to determine if the bodybuilders and footballers differed from the controls on body affect, as measured by the Body Esteem Questionnaire. It was predicted the bodybuilders and the footballers would have lower Body Esteem than the controls.

Firstly it was theorised that the bodybuilders would be vulnerable to poor body image and the associated emotional, behavioural and cognitive impacts (Pope et al., 2000, 1997; Connan, 1998; O’Sullivan & Tiggemann, 1997). It was also theorised that the footballers would be realistically striving to be elevated from the VFL to the elite professional ranks of the AFL. These young players would have to traverse the body size gap between the two leagues (Burke et al., 1985; Stevens, 2003; Young & Pryor, 2006; Nicholson, 2008) to be considered competitive in the AFL. If for many reasons, including genetics, they may struggle to put on the bulk required, they could, like the bodybuilders, also experience emotional, behavioural and cognitive impacts.

The results of this study revealed that the bodybuilders had higher, or more positive, Body Esteem than did the controls. This was in the opposite direction to what was predicted. So the bodybuilders had more positive feelings for the function and form of their bodies than did the controls. The footballers were no different from the controls on Body Esteem. Even though it was not predicted, the bodybuilders also had more positive feelings about their bodies than the footballers.
This elevated body related positivity in the bodybuilders seems to be incongruent with the fact that they also expressed higher Muscle Dysmorphia when compared to the controls. When also taking into consideration that the footballers reported more Muscle Dysmorphia than the controls, but were no different to them on Body Esteem, it raises the question of whether there is some differentiation, perhaps, between reporting the cognitive and behavioural impact of poor body image and reporting its emotional impact. This question will be further examined and discussed in the qualitative investigation in Study Three.

### 5.3.1 Upper Body Strength and Physical Conditioning

Upper Body Strength is one of the Body Esteem (BE) subscales by which the three groups of men were compared. It contains BE items that include the functioning as well as the form of the upper body. According to the creators of the scale: "what we have labelled the Upper Body Strength subscale are not bettered by making them smaller and more trim, but are improved by making them bigger and more broad. Because these body parts and functions are associated with our culture’s view of manly vigor, this factor may reflect men’s self assessment of virility’” (Franzoi & Shields, 1984, p. 178).

Despite the name of this subscale and the authors’ notion that it may be a self-assessment of a man’s own virility, this scale contains mainly item’s that are related to the form of the upper body such as ‘width of shoulders’, ‘arms’ and ‘chest’. In this study it was considered more of a measure of feelings around the function of the upper body. It was predicted that the footballers would be more focussed on body function in their physical pursuits and therefore have lower esteem scores for this subscale when compared to both the bodybuilders and the controls.

In concordance with the prediction, the footballers did have lower Upper Body Strength scores as compared to the bodybuilders. Thus the footballers feel less positively about their upper bodies than do the bodybuilders. With the true measure of the subscale a little ill-defined, it is not clear whether it is the function of the upper body (i.e. strength), the form (i.e. size and shape) of the upper body or some measure of self-
assessed virility, as the authors suggest, that is important. Thus, it is unclear if the results really do support this study’s prediction as to whether the footballers actually do feel less positively about how their upper body functions.

Although the footballers’ upper body strength esteem supported the prediction when they were compared to the bodybuilders, it was a different story when they were compared to the controls. Unlike the prediction, the footballers had more positive upper body strength esteem than did the controls. Thus the controls felt worse about their upper body strength than did the footballers, assuming that is what this subscale truly measures. This result may seem logical considering the footballers are objectively more ‘in shape’ than the controls, as attested to by their measured somatotypes, but body image is part of one’s self-image and is open to distortion and subjectivity (Pope Jr et al., 1993; O’Sullivan & Tiggemann, 1997). Thus the footballers’ self-perception of their upper bodies was not as positive as the bodybuilders but was more positive than the controls. This idea of body image distortion is investigated in Study Two, the results of which will be reported in Chapter 6.

Although it was not part of the research prediction, the results showed that the bodybuilders also had more positive Upper Body Strength when compared to the controls. This was another surprising result, especially considering the bodybuilders also had higher Muscle Dysmorphia scores than the controls. This again suggests that the BE Scale and therefore its subscales are measuring something unrelated to the Muscle Dysmorphia Scale. There are some potential recruitment and sampling issues that might affect the ways each of these groups expressed their experience of their body image, in particular, the lack of competitive bodybuilders in the sample and the use of psychology students in the control group. This will be discussed more in the critique section below.

Physical Conditioning is the other Body Esteem subscale that purports to measure respondent’s feelings about their function of their body. Physical Conditioning contains items such as ‘physical stamina’, ‘energy level’, ‘agility’ and ‘physical condition’. As described by its authors, the scale ‘reflects one’s feelings about one’s stamina, strength and agility... Items such as waist, appearance of stomach, and
appetite, which are associated with weight concern in women, load high on men’s Physical Condition factor. It appears that men associate these body parts and functions, not with how they and others assess them as static objects, but with how they will help or hinder physical activity” (Franzoi & Shields, 1984, p. 178).

Because this was a measure of feeling towards a respondent’s physical functioning, it was predicted that that the footballers, being highly focussed on this part of their physical pursuits, would have lower Physical Conditioning Esteem Scores when compared to the bodybuilders and the controls. It turned out that although the footballers results fell in between the other two groups; they were not significantly different from either. This was unexpected. Furthermore, although it was not part of the predictions, the bodybuilders again had higher Physical Conditioning esteem than the controls. These results suggest that the bodybuilders felt more positively about the Physical Condition of their bodies than the controls but the footballers felt no different than the controls or the bodybuilders. The lack of expected results for this Body Esteem subscale, like those for Upper Body Strength, when considering the significant differences between these groups on Muscle Dysmorphia, again supports the notion that these two body image variables measure different things.

5.3.2 Physical Attractiveness

The final of the three Body Esteem subscales was Physical Attractiveness. This subscale was seen as measuring the body’s form. That is not so concerned with feelings about the functioning of the body such as strength, stamina and agility but more with feelings about the appearance of various body parts. This subscale contains items such as ‘face’, ‘eyes’, ‘buttocks’ and ‘sex organs’. The authors of the scale described it as: “the features which largely determine the degree to which a man is judged handsome or ‘good-looking’. It is worth noting that, in contrast to the female attractiveness subscale, all items on the male subscale are body parts and not body functions. The factor included sex organs, but not sex activities or sex drive, suggesting that sexuality was less central to young men’s than young women’s feelings of attractiveness” (Franzoi & Shields, 1984, p. 177).
It was predicted that the bodybuilders would score lower on Physical Attractiveness due to their pursuit of the ideal physical form, but it turned out that there was no difference in scores between any of the participant groups. Much like the results for Physical Conditioning, the lack of results here could be due to several factors, such as the aforementioned issue of how related the Muscle Dysmorphia and Body Esteem Scale are, and also the issues of recruitment and sampling which will be discussed later. It is also possible that what this subscale measures is more to do with the extent to that respondents believe themselves to be handsome than the type of physique assessment bodybuilders typically make.

5.4 Psychological Distress

The final hypothesis in Study One concerned Psychological Distress. It was thought that men who have some investment in their physicality, such as bodybuilders, would run the risk of body image problems and that for these men, as opposed to men in general, body image concerns would be related to Psychological Distress (Pope et al., 2000, 1997; Connan, 1998; O’Sullivan & Tiggemann, 1997). It was predicted that the bodybuilders and footballers would score higher on Psychological Distress, as measured by the DASS, when compared to the controls. The results showed that there was no difference between any of the groups on the DASS.

The lack of support for the prediction around Psychological Distress may have been because the two experimental groups did not experience the predicted Psychological Distress or because the control group experienced higher Psychological Distress than predicted. The control group consisted of university students and may have been experiencing study stress at the time of completing the questionnaire, near the end of semester. Of course, the same can be said of the other participants who may be experiencing stress or anxiety for many reasons. But the students in the control group were the only group that shared a collective potential source of stress or anxiety or depression, anything that may have raised their DASS score. It could be argued that the bodybuilders, as a group, may be at risk of competition stress or anxiety, but only three of them were competitive, and of these only one was in the lead-up to a competition. Although the footballers were playing in a high level competition, they were all in pre-
season training and did not have any match pressure to deal with. Thus it is reasonable to suggest that the controls, as a group, may have elevated DASS scores due to variables outside those included in this study, and this may have contributed to the lack of significant results concerning Psychological Distress.

5.5 Study One Critique

A number of factors may have contributed to the data not supporting several hypotheses in Study One. As mentioned earlier in this chapter, some recruitment and participant sampling issues that could have played a part. The first of these issues was mentioned in the previous paragraph. Of the 15 bodybuilders in this study, only three were competitive bodybuilders. Men were included in this category of the study if they self-identified as doing bodybuilding as part of their training in a gym. This meant they trained regularly with weights, aimed to gain muscle size with their training, and altered their diet in order to gain muscle (e.g. take protein supplements). However, because this group included non-competitive bodybuilders, it means that the extent to which the same ideal physical goals were important to many of the individuals may not have been as great as if the group consisted of purely competitive bodybuilders. Some of the results in this study may therefore have been different if there was more uniformity in the men who were recruited in this category. If they were all competitors, it is possible they would be more committed and serious about their training, and gaining an ideal physique may have been more important to them. Having said that, some of the bodybuilders in this study reporting characteristics of Muscle Dysmorphia and expressing the importance of being ‘bigger’ muscularly were not competitors. This will be explored further in the participant interviews conducted in Study Three whose results suggest that qualitatively there are emotional, cognitive and behavioural consequences to poor body image, and that the results here in Study One are likely to be due to the type of general surveys which we used which were either not appropriate or not especially sensitive to the type of body issues experienced by these participants.

Another sampling issue alluded to earlier in this chapter was that of having university students as the controls in this study. Firstly, it was mentioned that the students could have been dealing with various types of study stress at the time they
filled in the DASS which asks respondents to report on how much a statement like ‘I found it difficult to relax’ applied to them over the last week. This would mean that for a control group their DASS scores would be too high and this could have contributed to the lack of difference between the groups on the DASS. However, when reviewing the control group’s mean scores for the DASS, this theory was discounted as their depression, anxiety and stress scores were all in the normal range (Lovibond & Lovibond, 1995). An alternative theory derives from the fact they were male first year psychology students. Psychology courses have recently become dominated by female enrolments, so it is possible that the types of males attracted to psychology as a discipline may be more self-reflective and less adherent to a stoic masculinity that would deny any feelings or experience of what could be considered a female problem like body image. This, along with the lack of uniformity in the bodybuilders group, could have led to the result of the bodybuilders having higher Body Esteem than the other two groups. Masculinity will be discussed further in the qualitative investigation in Study Three.

The effect of masculine norms seemed to affect the footballers more than other groups. The possible influence of masculinity here is interesting as it starts to hint at the complex way that masculinity relates to men and their bodies. It also pre-empts the introduction of masculinity as a variable in Study Three. Masculinity here is being referred to as part of a sporting culture. Australian Rules football has quite a long-held traditional masculine culture. On top of this, eight of the footballers went through the process of having their anthropometric measurements taken and filling in the questionnaires in pairs. This was done as I negotiated with football clubs’ coaching staff to do data collection prior to their training sessions. When two footballers participated together, one had anthropometrics done while the other completed the questionnaire, then they switched. It is possible that these men may not have felt comfortable being open when completing the questionnaire while in the room with a team mate. The players who were alone during data collection seemed more open to chat about their feeling about their body while measurements were taken. If these men were self-censoring in their questionnaire responses, for whatever reason, it could have diminished both Body Esteem and DASS scores. Their higher scores in the Muscle
Dysmorphia Scale may have been because it refers to exercise, diet and training supplements, topics they may have been more comfortable with.

A final point would be that the Muscle Dysmorphia Scale is sourced from two existing scales, one not designed for research and both used in research only once. Like the original tools, the it has not been validated. The Muscle Dysmorphia Scale proved highly reliable which suggested, as a scale, that it was measuring something and whilst it has ‘face validity’ (being generated based on categories from the DSM IV), it still requires some research to investigate its validity in relation to similar scales.

5.6 Conclusion

Study One was able to show that men who have an investment in their physiques, whether it be for function as in the footballers or for physical form as in the bodybuilders, are at risk of experiencing the symptoms of the body image Disorder Muscle Dysmorphia. It also showed that these men were more likely to exercise a lot more frequently than those who are not affected or less affected by Muscle Dysmorphia. These were the only predictions in this study that were supported by the data.

Several of the study predictions were not supported by the data. One main aim of this study was to show that men would report Psychological Distress associated with poor body image when the right men were asked the right questions. However, Psychological Distress was not related to Muscle Dysmorphia and it did not help differentiate between the experimental groups and the controls, though there may have been some confounding factors that influenced this result, such as study stress elevating scores in the control group, and footballers not feeling comfortable to be open about what might be perceived as less masculine expressions such as feeling bad about how you look, or admitting to ‘weak’ emotions in the DASS.

In summarising the results of the other major variables, the same confounding factors mentioned above could have influenced either the lack of a relationship, or relationships that were the reverse of those predicted, between Muscle Dysmorphia and Body Esteem and its subscales. Acknowledging the various possible confounding
factors, it may be that this study shows that despite the possible prevalence of the characteristics of Muscle Dysmorphia in men who exercise, sub-elite exercisers or non-exercisers, they don’t experience associated Psychological Distress or other emotional impacts. Recommendations for future study in this area will be made in the conclusion of this thesis.
CHAPTER 6: RESULTS OF STUDY TWO

6.1 Somatotype Perception Distortion and Somatotype Dissatisfaction

To get a measure of how distorted a participant’s perception of their own body might be, a calculation was performed for each of the components of somatotype separately (i.e. Mesomorphy, Endomorphy and Ectomorphy). The reason for using the three components separately rather than the composite measure was explained in Chapter 1. Thus, the somatotype of the photograph which participants chose to represent the way they think they look was subtracted from their actual measured somatotype, which allowed the three components to be examined separately (remember that each component can be rated on a scale from 0.5 up to 7 in a normal population). So actual Mesomorphy was subtracted from perceived Mesomorphy, and actual Ectomorphy was subtracted from perceived Ectomorphy etc. Thus if, say, a participant’s actual Mesomorphy is higher than their perceived Mesomorphy, they are more muscular than they think, and it will return a positive value for the above calculation. For Ectomorphy, it would mean that the participant thinks they are less skinny than they actually are (i.e. more fat and/or muscle), and for Endomorphy it would mean that the participant thinks they are less fat than they actually are. If the scores are negative, then the reverse is true, i.e. if the discrepancy score for Mesomorphy is negative it means the participant thinks they are more muscular than they actually are etc (i.e. Actual Mesomorphy – Perceived Mesomorphy = Mesomorphy Perception Distortion).

Somatotype Dissatisfaction is another measure of body image related body dissatisfaction that doesn’t involve questionnaires or scales. Essentially it is the difference between the somatotype of the photo the participants chose that they perceived they looked like and the somatotype of the photo that represented the body they desired to have. So, for instance, if their self-perceived Mesomorphy is higher than their desired Mesomorphy, they desire to be less muscular and they would have a positive discrepancy value. If their self-perceived Ectomorphy is higher than their desired Ectomorphy, they wish to be less skinny than they perceive themselves to be, and if their self-perceived Endomorphy is higher than their desired Endomorphy, they wish to be less fat than they perceive themselves to be. If the discrepancy score, say, for
Mesomorphy was a negative, then their perceived Mesomorphy was less than their desired Mesomorphy, and that means they wish to be more muscular (i.e. Perceived Mesomorphy – Desired Mesomorphy = Mesomorphy Dissatisfaction).

6.2 Initial Data Processing

The degree to which this data conforms to a normal distribution will determine if the required assumptions about normality are upheld for further analysis to be conducted. As in Study One, normality was assessed for each group separately as the distribution of the dependant variables was predicted to vary. It was examined in the control, bodybuilder and footballer groups for Mesomorphy, Ectomorphy and Endomorphy Perception Distortion and for Mesomorphy, Ectomorphy and Endomorphy Dissatisfaction and for the Photo D question. Outliers were first identified from box plots, and variable distributions were reviewed. A Shapiro–Wilk’s W was calculated for each variable in each group, and then Skew, Kurtosis and Normal and Detrended Q-Q Plots were examined if necessary.

The bodybuilder group was checked for outliers and two were found for Ectomorphy Perception Distortion (B8, B14), and they were removed. Ectomorphy Perception Distortion was also the only variable to return a significant Shapiro–Wilk W’s (W = .78, p = .006). The Skewness (.44) and the Kurtosis (-.34) were very small, and an inspection of the Normal and Detrended Q-Q Plots suggested a near normal distribution. For the controls, outliers were identified for Endomorphy Perception Distortion (C3) and Ectomorphy Perception Distortion (C22), and both were removed. The variables for the control group produced no significant Shapiro Wilk W’s. Finally, the variables for the footballer group were also checked for outliers. One was found for Mesomorphy Perception Distortion (F1) and Ectomorphy Perception Distortion (F1, F15), and they were all removed. When the distributions were then checked, no variables returned a significant Shapiro Wilk W.

When it came to reviewing the normality data for the questionnaire item asking participants if they wanted to be more or less muscular than the ‘pure mesomorph’ in Photo D, only three outliers were identified, all in the control group (C3, C11, C13), and
they were all removed. When reviewing the distributions on this variable it was found that all the participant groups returned significant Shapiro Wilk W’s. But the controls (W = .85, p = .003), bodybuilders (W = .82, p = .01) and footballers (W = .87, p = .03) all had low skewness (-.053, -.012 & -.095 respectively) and low kurtosis (-.061, -1.78, and -1.4 respectively) and reasonable-looking Normal and Detrended Q-Q Plots. Reviewing the histograms revealed that the significant Shapiro Wilk W’s were most likely caused by bimodal distributions formed because of low numbers in the middle of the whole distribution. Given that the difference in variance within the groups was small (controls SD = .74, bodybuilders SD = 1.26, and the footballers SD = 1.28; and no SD was greater than 4 times that of the other), no further data processing was done as ANOVA and t-test’s required to analyse this variable are relatively robust to normality violations of this kind (Howell, 2002, p.. 323).

6.3 The Transformation of the Somatotype Dissatisfaction Variables into Categorical Variables

An examination of the Normality output for the three Somatotype Dissatisfaction Variables indicates a non-normal distribution for all three. An examination of the histograms for Endomorphy Dissatisfaction (W = .86, p < .001), Mesomorphy Dissatisfaction (W = .79, p < .001) and Ectomorphy Dissatisfaction (W = .86, p < .001) showed that more than half the participants on each variable are at zero, indicating that their desired and self-perceived somatotypes are the same. A possible contributor to this amount of apparent satisfaction was that many of the bodybuilders (and even footballers) may have seen themselves as Photo D, the pure mesomorph, in the photo selection and also have chosen that photo as their desired somatotype photo merely because it was the most muscular. They may have wished to have an even bigger physique, but did not have any bigger somatotype photo to select. This issue will be investigated later in the chapter.

Given that the histograms for these three dissatisfaction variables tell us that none of them are viable as continuous variables, it was decided to convert them into categorical variables. This was done by creating two groups for each of Endomorphy Dissatisfaction, Mesomorphy Dissatisfaction and Ectomorphy Dissatisfaction
categories. In one of the groups, all participants who scored either around 0 indicating satisfaction and the odd person at +1 or -1 (indicating minimal deviation from 0, considering that choosing from 14 photos which body represents you is not an exact science) were used. In the other category, all people who indicated dissatisfaction with their physiques (i.e. greater than or equal to +2 or -2) were used. Interestingly, for each of the somatotype components, the participants whose dissatisfaction was greater than +/- 2 were almost always grouped on the same side of 0., and we therefore removed the small number who were not (N = 5). Thus, each somatotype component had only one dissatisfied group because almost all the dissatisfied participants were dissatisfied in the same direction, e.g. all the Dissatisfied Mesomorphy Group were dissatisfied with not being muscular enough as opposed to being too muscular, the Dissatisfied Ectomorphy Group were dissatisfied with being too skinny, and the Dissatisfied Endomorphy group were dissatisfied with being too fat. Because of this pattern, this analysis is not afflicted by potential problems with assuming that someone who is, say, less mesomorphic than they want to be is equivalent to someone who is more mesomorphic, since the second group simply does not exist.

When looking at each of the somatotype components more specifically, the Endomorphy Satisfaction Group (n = 29) were all those around 0 when their desired Endomorphy rating was subtracted from their perceived Endomorphy rating (as explained above). The Endomorphy Dissatisfaction Group (n = 23) only consisted of men with positive dissatisfaction scores (i.e. wanting to be less fat). The Mesomorphy Satisfaction Group (n = 39) was calculated the same way, and the Mesomorphy Dissatisfaction Group (n = 14) were all those with negative dissatisfaction scores (i.e. wanting to be more muscular). Finally, the Ectomorphy Satisfaction Group (n = 32) was also defined the same as the other two components, and the Ectomorphy Dissatisfaction Group (n = 19) was all those with positive dissatisfaction scores (i.e. wanting to be less skinny).

So, from the three original variables, six categories emerged: Endomorphy Satisfaction, Endomorphy Dissatisfaction, Mesomorphy Satisfaction, Mesomorphy Dissatisfaction, Ectomorphy Satisfaction and Ectomorphy Dissatisfaction. Considering these are now categorical variables, when the relationship that dissatisfaction has with
continuous variables such as Muscle Dysmorphia or Somatotype Distortion is investigated, it will mean comparing the satisfied and dissatisfied group for each somatotype component (Endomorphy, Mesomorphy and Ectomorphy) on that variable.

The normality of the distributions for all the psychological and behavioural variables (Muscle Dysmorphia, Body Esteem, DASS and Total Weekly Exercise) was examined for the dissatisfied and satisfied groups for each of the somatotype components. This was done in preparation for investigating Hypothesis Five. None of the distributions had issues with normality.

Next, the hypotheses for Study Two will be reported on. The first ones relate to the three components of Somatotype Perception Distortion (which remained continuous variables), as described in the beginning of this section. This will be followed by the hypotheses relating to the three components of Somatotype Dissatisfaction.

6.4 Hypotheses

6.4.1 Hypothesis One: The Relationship Mesomorphy Perception Distortion Has with Muscle Dysmorphia, Body Affect, Psychological Distress and Exercise

It was hypothesised that Mesomorphy Perception Distortion would be positively related to Muscle Dysmorphia, Total Weekly Exercise and Psychological Distress (as measured by the DASS), and negatively related to Body Affect (as measured by the Body Esteem Scale). That is, as participants started to perceive themselves as being less muscular than they actually were, they would experience more Muscle Dysmorphia, more Psychological Distress, exercise more and have lower Body Esteem. As set out in Chapter 1, the reasoning behind this hypothesis is that a preoccupation with one’s body being insufficiently lean and muscular, irrespective of actual current body shape, is a characteristic of the disorder Muscle Dysmorphia. To test this hypothesis, Pearson Correlation Coefficients were calculated.

It turned out that Mesomorphy Perception Distortion was not significantly correlated to Muscle Dysmorphia ($r = .03, n = 53, p = .81$). The results also showed that
it was not significantly related to the DASS either \((r = -.09, n = 51, p = .53)\).

Mesomorphy Perception Distortion did, however, have a relationship with Total Weekly Exercise, but it was in the opposite direction to what was predicted \((r = -.32, n = 53, p < .05)\), that is, those men who were actually more muscular than they thought they were exercised less. Finally, Body Esteem also had a relationship with Mesomorphy Perception Distortion and it was in the predicted direction \((r = -.29, n = 53, p < .05)\). This means that participants’ feelings about their bodies became more negative as they started to perceive themselves as being less muscular than they actually are. All these reported correlations with Mesomorphy Perception Distortion and the body image and mood variables are summarised in Table 7 along with the correlations for Ectomorphy and Endomorphy Perception Distortion.

Table 7: A Summary of the Correlations Between Somatotype Perception Distortion and the Body Image and Mood Variables

<table>
<thead>
<tr>
<th></th>
<th>DASS</th>
<th>Total Weekly Exercise</th>
<th>Body Esteem</th>
<th>Muscle Dysmorphia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesomorphy Perception Distortion</td>
<td>-.09</td>
<td>-.32*</td>
<td>-.29*</td>
<td>.03</td>
</tr>
<tr>
<td>Ectomorphy Perception Distortion</td>
<td>-.10</td>
<td>.34*</td>
<td>.18</td>
<td>.01</td>
</tr>
<tr>
<td>Endomorphy Perception Distortion</td>
<td>-.08</td>
<td>.20</td>
<td>.26</td>
<td>.20</td>
</tr>
</tbody>
</table>

\* \(p < .05\)

6.4.2 Hypothesis Two: The Relationship Ectomorphy and Endomorphy Perception Distortion Have with Muscle Dysmorphia, Body Affect, Psychological Distress and Exercise

It was hypothesised that both Ectomorphy Perception Distortion and Endomorphy Perception Distortion would be negatively related to Muscle Dysmorphia, Total Weekly Exercise and Psychological Distress, and positively related to Body Esteem. This means as participants start to see themselves as either less thin or less fat than they actually are, then they will experience lower Muscle Dysmorphia, lower
Psychological Distress, exercise less frequently and have higher Body Esteem. It was predicted these relationships would be in the opposite direction to those with Mesomorphy Perception Distortion.

The direction of the predictions regarding Ectomorphy Perception Distortion was made because, if a man believes he is less muscular than he actually is, then it is likely he will also think he is skinnier than he actually is. As it turns out, this prediction was supported by a significant Pearson Correlation conducted between Mesomorphy Perception Distortion and Ectomorphy Perception Distortion (EcPD) which showed the two are inversely related to each other ($r = -.60$, $n = 49$, $p < .001$). The direction of the prediction relating to Endomorphy Perception Distortion was made because the goal of losing body fat has been considered a strategy for building a muscular ideal body, and therefore these men would see themselves as more fat if they also saw themselves as less muscular than they were in actuality. However, a Pearson Correlation showed that although the relationship between MPD and Endomorphy Perception Distortion (EnPD) was in the predicted direction, it was not significant ($r = -.22$, $n = 52$, $p = .12$). With the direction of these predictions now explained, Pearson Correlation Coefficients were conducted to investigate the relationships predicted in Hypothesis Two. The results of those calculations are presented next.

In terms of the Ectomorphy Perception Distortion, the results showed that it was not significantly related to Muscle Dysmorphia ($r = .01$, $n = 49$, $p = .94$), the DASS ($r = -.10$, $n = 48$, $p = .50$) or Body Esteem Scale ($r = .18$, $n = 49$, $p = .22$). However, it did have a relationship with Total Weekly Exercise, but in the opposite direction to what was predicted ($r = .34$, $n = 49$, $p < .05$). Therefore as participants see themselves as less thin than they actually are (having more fat and muscle), they exercise more.

In terms of the Endomorphy Perception Distortion, the results showed that it was not related to Muscle Dysmorphia ($r = .20$, $n = 53$, $p = .15$), Total Weekly Exercise ($r = .20$, $n = 53$, $p = .15$) or the DASS ($r = -.08$, $n = 51$, $p = .59$). However, although it was not significantly related to Body Esteem, the result was marginally significant and in the predicted direction ($r = .26$, $n = 53$, $p = .06$). This strongly suggests that that
participants’ feelings about their bodies improved as they perceived themselves to be less fat than they actually were.

In summary, the data revealed that, at least for the participants in this study, as the men’s perception moves towards seeing themselves as less muscular than they actually are, their feelings about their body become more negative and they also exercise less. The data also revealed that as the men’s perception of their bodies moved towards seeing themselves as being less thin (more fat and/or more muscular) than they are, they exercised more.

### 6.4.3 Hypothesis Three: The Difference Between the Groups on Mesomorphy Perception Distortion

It was predicted that the bodybuilders and the footballers would have higher Mesomorphy Perception Distortion than the controls – that they would lean more towards seeing their bodies as being less muscular than they actually were. As presented in Chapter 1, the main reason for this prediction was that they were expected to report more Muscle Dysmorphia characteristics than the controls, and experiencing a distortion of perception of one’s body, particularly regarding muscularity, is also considered a characteristic of Muscle Dysmorphia.

A one-way between groups ANOVA was conducted to examine this, and the result was significant $F(2, 50) = 3.23, p < .05, \eta^2 = .11$. Therefore, further analysis was warranted to check the difference between pairing of groups. Independent samples t-tests were performed to determine if there were differences between each group on Mesomorphy Perception Distortion. It turned out the bodybuilders ($M = .071, SD = 1.19$) were not significantly different from the controls ($M = .70, SD = 2.30$); $t(37) = 0.95, p = .35$. The footballers ($M = -.79, SD = .83$), however, had significantly lower Mesomorphy Perception Distortion than the controls; $t(37) = 2.32, p < .05, \eta^2 = .13$. This was unlike the prediction, as the footballers perceived themselves as more muscular than they actually were, whereas the controls saw themselves as less muscular than they actually were, which is also shown in Figure 4.
Although this was not part of the hypothesis, a post hoc comparison showed that the footballers also had a significantly lower Mesomorphy Perception Distortion as compared to the bodybuilders; t(26) = 2.21, p < .05, \( \eta^2 = .16 \). So again, the footballers thought they were more muscular than they actually were, and the bodybuilders tended to think they were slightly less muscular than they actually were. The t-tests for Mesomorphy Perception Distortion and Endomorphy and Ectomorphy Perception Distortion are summarised in Table 8 along with the Photo D desirability t-tests that are reported on page 103.

Table 8: *A Summary of the Inter-Group Statistical Comparisons for Somatotype Perception Distortion and Photo D Desirability*

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>ANOVA p value</th>
<th>BB vs. C</th>
<th>FB vs. C</th>
<th>BB vs. FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesomorphy Perception Distortion</td>
<td>&lt;.05</td>
<td>X</td>
<td>✓ -</td>
<td>✓ *</td>
</tr>
<tr>
<td>Ectomorphy Perception Distortion</td>
<td>&lt;.05</td>
<td>X</td>
<td>✓ *</td>
<td>X</td>
</tr>
<tr>
<td>Endomorphy Perception Distortion</td>
<td>&lt;.05</td>
<td>✓ *</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Photo D Desirability</td>
<td>&lt;.001</td>
<td>✓ ****</td>
<td>✓ ****</td>
<td>✓ ***</td>
</tr>
</tbody>
</table>

Group 1 is greater than group 2: *p< .05, **p< .01, *** p<.005, **** p<.001
Group 1 is less than group 2: - p<.05, -- p<.01, --- p< .005, ---- p < .001
✓ = significant t-test comparison, X = non-significant, BB = bodybuilders, C = controls, FB = footballers

### 6.4.4 Hypothesis Four: The Difference Between the Groups on Ectomorphy Perception Distortion and Endomorphy Perception Distortion

It was predicted that the two experimental groups (footballers and bodybuilders) would have lower Ectomorphy Perception Distortion as compared to the controls, seeing themselves as more skinny than they actually were. A one-way between groups ANOVA was conducted to see if any of these group differences were significant: F(2, 46) = 5.14, p < .05, \( \eta^2 = .18 \). Independent samples t-tests were the used to investigate the differences between each pair of groups. The bodybuilders (M = -.17, SD = .33) were not significantly different on Ectomorphy Perception Distortion than the controls (M = -.90, SD = 1.23); t(34) = 2.01, p = .052. While both mean scores were in the negative, that is, both groups tended to think they were skinnier than they actually were,
the difference between the groups was not big enough to be considered significant. It turned out there was a significant difference between the controls and the footballers (M = .15, SD = .97); t(35) = 2.67, p < .05, η² = .22. This shows that the footballers tend to think they are less skinny than they actually are, as compared to the controls who, as mentioned above, think they are skinnier than they actually are. This is the opposite of what was expected. Figure 4 represents all these results.

It was also predicted that the two experimental groups would have lower Endomorphy Perception Distortion. This means that they would think that they were fatter than they actually were as compared to the controls. Again a one-way between groups ANOVA was conducted to see if any of these group differences were significant: F(2, 50) = 4.04, p < .05, η² = .14. To further investigate the differences between each of the groups, independent samples t-tests were performed. The bodybuilders (M = 2.29, SD = 1.27) had higher Endomorphy Perception Distortion than the controls (M = 1.13, SD = 1.26); t(36) = 2.73, p < .05, η² = .17. So both groups thought they were less fat than they actually were with the bodybuilders having the highest Distortion. Again this was the opposite of what was predicted. The footballers
(M = 1.73, SD = 1.15) were not significantly different from the controls; t(37) = 1.52, p = .14. This is all reflected in Figure 4.

6.4.5 Hypothesis Five: How Those Who Are Satisfied or Dissatisfied with Their Somatotype Differ on Muscle Dysmorphia, Psychological Distress, Body Affect and Exercise

It was hypothesised that those who were dissatisfied with either their Endomorphy, Mesomorphy or Ectomorphy would also score higher on Muscle Dysmorphia, Psychological Distress (as measured by the DASS), lower on Body Affect (as measured by the Body Esteem Scale) and report higher Total Weekly Exercise. To investigate this, a series of independent samples t-tests were conducted. These can be found in Table 9, along with t-tests between the Satisfied and Dissatisfied Somatotype groups for Somatotype Perception Distortion from Hypothesis Seven.

Table 9: A Summary of the t-tests Conducted Between the Satisfied and Dissatisfied Groups for each Somatotype Component for Hypotheses Five and Seven

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>MD vs. MS</th>
<th>EcD vs. EcS</th>
<th>EnD vs. EnS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Weekly Exercise</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Muscle Dysmorphia</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>DASS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Body Esteem</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Endomorphy Perception Distortion</td>
<td>-</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Ectomorphy Perception Distortion</td>
<td>-</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Mesomorphy Perception Distortion</td>
<td>****</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Group 1 is greater than group 2: *p< .05, **p< .01, *** p<.005, **** p<.001
Group 1 is less than group 2: - p<.05, -- p<.01, --- p<.005, ---- p < .001
✓ = significant t-test comparisons, X = non-significant, MD = Mesomorphy Dissatisfaction, MS = Mesomorphy Satisfaction, EcD = Ectomorphy Dissatisfaction, EcS = Ectomorphy Satisfaction, EnD = Endomorphy Dissatisfaction, EnS = Endomorphy Satisfaction

The first to be tested was Endomorphy Dissatisfaction, which meant they were not happy with their amount of body fat. It is worth mentioning that those in the Endomorphy Dissatisfaction group were only those who had positive discrepancy
scores between their perceived ‘fatness’ and their desired ‘fatness’. This means that the only men who were unhappy with their body fat thought they were fatter than they wanted to be (there were two men who had negative discrepancy score but were not enough to make up a group so were removed from analysis). An independent samples t-test revealed that those who reported Endomorphy Dissatisfaction (M = 31.57, SD = 7.95), did not differ from those who were satisfied (M = 34.90, SD = 9.37) on Muscle Dysmorphia; t(50) = 1.36, p = .18. Endomorphy Dissatisfaction (M = 18.82, SD = 12.90) also did not differ from Endomorphy Satisfaction (M = 19.79, SD = 13.12) on the DASS; t(48) = .26, p = .80. Endomorphy Dissatisfaction (M = 118.74, SD = 18.7) did not differ from Endomorphy Satisfaction (M =127.45, SD = 15.78) on Body Esteem; t(50) = 1.82, p = .07. Finally, Endomorphy Dissatisfaction (M = 4.94, SD = 3.37) did not differ from Endomorphy Satisfaction (M = 5.76, SD = 3.45) on Total Weekly Exercise; t(50) = .88, p = .39. Figure 5 presents all the results for the Endomorphy Dissatisfaction/Satisfaction groups.

![Diagram](image)

**Figure 5:** Mean Muscle Dysmorphia, DASS, Body Esteem and Total Weekly Exercise Scores by Endomorphy Dissatisfaction Group

The next to be investigated is Mesomorphy Dissatisfaction, which is being dissatisfied with your musculature. The Mesomorphy Dissatisfaction group was made
up only of those men with negative discrepancy scores between their perceived and desired muscularity. This means only men who were less muscular than they wanted to be were dissatisfied. There were no men with negative Mesomorphy Dissatisfaction Scores. Independent samples t-tests determined that Mesomorphy Dissatisfaction (M = 30.5, SD = 8.46) did not differ from Mesomorphy Satisfaction (M = 33.59, SD = 9.51) on Muscle Dysmorphia; t(51) = 1.07, p = .29. Mesomorphy Dissatisfaction (M = 15.14, SD = 8.89) was also no different from Mesomorphy Satisfaction (M = 20.68, SD = 13.85) on the DASS; t(49) = 1.39, p = .17. Mesomorphy Dissatisfaction (M = 117.07, SD = 18.85) was not significantly different from Mesomorphy Satisfaction (M = 126.95, SD = 17.00) on Body Esteem; t(51) = 1.81, p = .08. Finally, Mesomorphy Dissatisfaction (M = 3.71, SD = 3.49) was not significantly different from Mesomorphy Satisfaction (M = 5.73, SD = 3.33) on Total Weekly Exercise; t(51) = 1.93, p = .06. Figure 6 presents the results for the Mesomorphy Dissatisfaction/Satisfaction groups.

Figure 6: Mean Muscle Dysmorphia, DASS, Body Esteem and Total Weekly Exercise Scores by Mesomorphy Dissatisfaction Group

The third and final Somatotype Dissatisfaction component to be investigated was Ectomorphy Dissatisfaction, which is being unhappy with how skinny you are. The Endomorphy dissatisfaction group was made up only of men with positive scores which
meant that they were skinnier than they wanted to be. There were only three men on the negative side of the spectrum, and they were not enough to form a group, and hence were removed from the analysis. This tells us that in the whole sample there were only three men who wanted to be skinnier, everyone else was either satisfied with their relative skinniness or they wanted to be less skinny. An independent samples t-test revealed that Ectomorphy Dissatisfaction (M = 32.89, SD = 9.15) did not differ from Ectomorphy Satisfaction (M = 33.50, SD = 9.45) on Muscle Dysmorphia; t(49) = .22, p = .82. Ectomorphy Dissatisfaction (M = 18.72, SD = 14.20) also did not differ from Ectomorphy Satisfaction (M = 19.65, SD = 12.47) on the DASS; t(47) = .237, p = .81. An independent samples t-test also showed that Ectomorphy Dissatisfaction (M = 124.74, SD = 14.19) was not significantly different from Ectomorphy Satisfaction (M = 126.50, SD = 18.39) on Body Esteem; t(49) = .359, p = .72. The final comparison between the groups showed that Ectomorphy Dissatisfaction (M = 5.45, SD = 3.94) did not significantly differ from Ectomorphy Satisfaction (M = 5.38, SD = 3.15) on Total Weekly Exercise; t(49) = .07, p = .94. Figure 7 shows the results for the Ectomorphy Dissatisfaction/Satisfaction groups.

Figure 7: Mean Muscle Dysmorphia, DASS, Body Esteem and Total Weekly Exercise Scores by Ectomorphy Dissatisfaction Group
To summarise, although there were reasonably large differences between the men who were either satisfied or dissatisfied with their Endomorphy, Mesomorphy or Ectomorphy, these did not appear to significantly affect how they scored on Muscle Dysmorphia, Psychological Distress, Body Affect or Frequency of Exercise measures.

6.4.6 Hypothesis Six: How the Experimental Groups Differ on Somatotype Dissatisfaction

It was predicted that the two experimental groups, the bodybuilders and the footballers, would be more dissatisfied with their bodies than the controls. This was examined with each of the somatotype components separately. It was expected that the bodybuilders and the footballers would report a greater difference between their self-perceived and their desired Endomorphy, Mesomorphy and Ectomorphy. However, because the distributions of each of the Somatotype Dissatisfaction component variables were far from normal, they were transformed into categorical variables. Each component had a ‘satisfied’ and a ‘dissatisfied’ category. Essentially, investigating this hypothesis means comparing the three groups, each on three sets of two categorical variables (see Table 10). The percentage of each group that falls into each of the categorical variables was examined.

Table 10: Somatotype Dissatisfaction and Satisfaction Percentages for Each Participant Group

<table>
<thead>
<tr>
<th>Component</th>
<th>Dissatisfaction</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endomorphy</td>
<td>60.87 21.43 40.00</td>
<td>39.13 78.57 60.00</td>
</tr>
<tr>
<td>Mesomorphy</td>
<td>41.67 7.14 20.00</td>
<td>58.33 92.86 80.00</td>
</tr>
<tr>
<td>Ectomorphy</td>
<td>36.36 21.43 53.33</td>
<td>63.64 78.57 46.66</td>
</tr>
</tbody>
</table>

The results showed that Endomorphy Dissatisfaction, which meant that participants wanted to be less fat than they perceived themselves to be, was reasonably
prevalent in the control group, with almost two thirds being dissatisfied. This was quite different to the experimental groups where the footballers were 60% satisfied with their body fat and the bodybuilders were almost 80% satisfied with their body fat.

With regard to Mesomorphy Dissatisfaction, defined as a participant wanting to be more muscular than they actually were, almost 60% of the controls were satisfied. The two experimental groups expressed even greater satisfaction with muscularity than did the controls, with the footballers at 80% and the bodybuilders at over 90%. It is worth noting that the degree of satisfaction here for Mesomorphy, particularly for the bodybuilders, could be due to the fact that respondents couldn’t select a desired photo with a Mesomorphy higher than 7. Thus if they perceived themselves to be about a 7 on Mesomorphy but were unsatisfied and wanted to be even higher than a 7, then it could not be reflected by the photo options supplied. An item was included in the questionnaire which asked respondents if they wanted to be bigger, smaller or the same as the man in the photo representing a Mesomorphy rating of 7. The results of this will be reported later.

Ectomorphy Dissatisfaction meant that participants thought they were skinnier than they wanted to be. Almost 64% of the controls were satisfied with their level of thinness, this was the somatotype component they were most satisfied with. The bodybuilders were more satisfied than the controls at almost 79%. The footballers as a group were just a little more dissatisfied than they were satisfied on their Ectomorphy. This was their most dissatisfied somatotype component.

To determine if any of these groups differ more than chance, Chi-square tests were calculated for each dissatisfaction somatotype component across each participant group to see whether the percentage of participants that fall in each category differ significantly. Firstly, with regard to Endomorphy Dissatisfaction, a Chi-square test for independence indicated that, although it was close, no significant differences occurred between Endomorphy Dissatisfaction/Satisfaction and participant group membership, $\chi^2(2, n = 52) = 5.6, p = .06$, Cramer’s $V = .33$. For the Ectomorphy component, a Chi-square was also conducted and again no differences occurred between Ectomorphy Dissatisfaction/Satisfaction and participant group membership, $\chi^2(2, n = 51) = 3.2, p =$
The final of the somatotype components, Mesomorphy, produced a Chi-square result that breached the assumption that all expected cell sizes are greater than 5. It showed that 2 cells have expected counts of less than 5, in the present sample, the minimum expected count is 3.7. However, Howell (2002) says that this is a conservative position and is comfortable with violating it. Despite this, the Chi-square test found that Mesomorphy Dissatisfaction/Satisfaction did not differ in terms of participant group membership, \( \chi^2 (2, n = 53) = 5.87, p = .053, \) Cramer’s V = .33.

In summary, the controls were more satisfied with their Mesomorphy and Ectomorphy but at the same time were equally dissatisfied with their Endomorphy. The bodybuilders were highly satisfied with all three somatotype components, particularly muscularity, though this may be due to the limit of Mesomorphy on the photos available for selection (i.e. they almost all chose the photo with the highest Mesomorphy, and hence were not able to choose ones that were larger). Finally, the footballers were satisfied with their Endomorphy, very satisfied with their Mesomorphy but slightly dissatisfied with their Ectomorphy. Despite the trends suggested by the percentages, differences between the participant groups on dissatisfaction on each of the somatotype components, though close, were not significant.

To investigate the issue of Mesomorphy Dissatisfaction for the bodybuilders in particular, an item was included in the questionnaire that asked all participants if they wished to be more, less or equally as muscular as the photo of the ‘pure’ mesomorph. The pure mesomorph had a Mesomorphy rating of 7, an Ectomorphy rating of 1 and an Endomorphy rating of 1 (see Figure 8). A score of 1 meant the participant wanted to be ‘considerably less’ muscular than the photo, a score of 4 meant he wanted to be ‘the same’ as the photo, and a score of 7 meant he wanted to be ‘considerably more’ muscular.
It makes sense that, due to the nature of all their physical pursuits, the bodybuilders would desire the most muscular physique, followed by the footballers and then the controls, although what really needed to be checked was if the bodybuilders in particular wanted to be bigger than the ‘pure Mesomorphy’ in Photo D. To see if there were differences between the three groups on this question, a one-way between groups ANOVA was conducted; $F(2, 47) = 37.53$, $p < .001$, $\eta^2 = .61$, and was significant. Further independent samples $t$-test investigating the difference between the controls ($M = 2.41$, $SD = .73$) and the bodybuilders ($M = 5.62$, $SD = 1.26$) on Photo D showed a significant difference; $t(33) = 9.55$, $p < .001$, $\eta^2 = .73$. With a mean of almost 6, the bodybuilders want to be more muscular than Photo D, which is significantly different from the controls whose mean is at about 2.5 which says they want to be less muscular than Photo D (see Figure 9). A summary of all the $t$-tests conducted for examining the group differences on Photo D can be found in Table 8.
This result tells us that the bodybuilders do want to be more muscular than the most muscular photo they could choose to represent their desired somatotype. Without the question asking about Photo D, it could have been otherwise concluded that they all were satisfied with their bodies. This is because all the bodybuilders chose Photo D, with a Mesomorphy score of 7, as their desired somatotype, and with a mean self-perceived Mesomorphy score of 6.36, it would seem that their desired somatotypes were close to their self-perceived somatotypes and that they were satisfied with their muscularity. But the results of the Photo D item on the questionnaire tell us that the bodybuilders actually wish to be even more muscular than the man in the photo, thus revealing they are not as satisfied with their muscularity as it first seemed.

The footballers (M = 3.93, SD = 1.28) were also significantly different from the controls; t(35) = 4.60, p < .001, $\eta^2 = .38$. The footballers with a mean virtually at 4 tells us that they wanted to have the same muscularity as Photo D. The footballers were also significantly different from the bodybuilders; t(26) = 3.49, p < .005, $\eta^2 = .32$. So with significant difference between all three groups, there is a definite demarcation between them on whether they desire to be more or less muscular than the ‘pure mesomorph’ in

Figure 9: Mean Photo D Desirability Scores by Group
Photo D: the bodybuilders’ wish to be more muscular, the footballers the same, and the controls less muscular.

6.4.7 Hypothesis Seven: The Difference between Somatotype Satisfaction and Dissatisfaction on Somatotype Distortion

The literature review in Chapter 1 showed that men experiencing the Adonis Complex or Muscle Dysmorphia can express body dissatisfaction and exhibit a distortion in how they perceive the composition of their own bodies. This relates to the Muscle Dysmorphia diagnostic criteria of being preoccupied with being insufficiently lean and muscular, suggesting body composition and not purely body size are important here. It was therefore predicted that those participants who report dissatisfaction on a somatotype component, such as Endomorphy, will also have a distorted perception of their own body with regard to that component. More precisely, if they are unhappy with their perceived level of body fat, they will have a distortion in how they see their own body fat. To investigate this hypothesis, independent samples t-tests were conducted. All the t-tests from this hypothesis have been summarised in Table 9.

The results show that for Endomorphy, Endomorphy Satisfaction (M = 2.02, SD = 1.21) was significantly more positively distorted than Endomorphy Dissatisfaction (M = 1.00, SD = 1.17) on Endomorphy Perception Distortion; t(49) = 3.04, p < .005, η² = .16 (see Figure 10). With both Endomorphy Perception Distortion Means being in the positive direction, both groups see themselves as less fat than they actually are, but the group that is satisfied with their body fat see themselves to be even less fat than they actually are as compared to those who are dissatisfied. Thus those who are happy with their amount of body fat have a more overly positive view of their body fat than unsatisfied men.
The data also reflected a significant result for Ectomorphy. The Ectomorphy Dissatisfaction group (M = -1.03, SD = 1.10) showed a significantly larger negative body distorted than did the Ectomorphy Satisfaction group (M = -.23, SD = .96) on Ectomorphy Perception Distortion; t(45) = 2.60, p < .05, $\eta^2 = .13$ (see Figure 11). Here, both groups have Ectomorphy Perception Distortion Means in the negative, that is, they both see themselves as skinnier than they are. So the group that are unhappy with how skinny they think they are also see themselves as skinnier that they actually are, and this distortion in perception is even greater than the group who were satisfied with the thinness of their bodies.
Mesomorphy is the last of the three somatotype components to be investigated. Again, an independent samples t-test produced a significant result. Mesomorphy Dissatisfaction (M = 1.96, SD = 2.17) was significantly more positively distorted than the negatively distorted Mesomorphy Satisfaction group (M = -.61, SD = 1.00) on Mesomorphy Perception Distortion; t(50) = 5.86, p < .001, \( \eta^2 = .41 \) (see Figure 12). The men who were dissatisfied with their Mesomorphy had a high positive mean Mesomorphy Perception Distortion indicating, not only were they wanting to be more muscular, they also saw themselves as less muscular than they actually were. The Satisfied group on the other hand had a smaller but negative mean Mesomorphy Perception Distortion, indicating they tended to perceive their muscularity as being bigger than it actually was.

It was predicted that dissatisfaction on each somatotype component would also see a distorted perception on that same somatotype perception, and that is what the data appeared to show. Unlike the other two somatotype components, though, men who were satisfied or dissatisfied on their Mesomorphy also differed on their self-perceptions of their Endomorphy and Ectomorphy. Independent samples t-tests showed that
Mesomorphy Dissatisfaction (M = .86, SD = 1.28) was significantly different to Mesomorphy Satisfaction (M = 1.88, SD = 1.23) on Endomorphy Perception Distortion; t(50) = 2.63, p < .05, η² = .12 (see Figure 12). Both groups have positive Endomorphy Perception Distortion Means which means they both think they are less fat than they actually are, but the distortion is much greater for the men who are satisfied with their muscularity. Mesomorphy Dissatisfaction (M = -.96, SD = .95) was also significantly different from Mesomorphy Satisfaction (M = -.16, SD = .95) on Ectomorphy Perception Distortion; t(46) = 2.60, p < .05, η² = .13 (see Figure 12). So here both groups had negative Ectomorphy Perception Distortion Means, indicating they see themselves as skinnier than they actually are, but the distortion is stronger in those men who were dissatisfied with their muscles, as in wanting to be more muscular.

![Figure 12: Mean Mesomorphy Perception Distortion, Endomorphy Perception Distortion and Ectomorphy Perception Distortion by Mesomorphy Dissatisfaction Group](image)

So, to summarise the Mesomorphy Dissatisfaction results, the men who were dissatisfied with their Mesomorphy (muscularity) perceived themselves as less muscular than those who were satisfied with their Mesomorphy, who actually saw themselves as slightly more muscular. The men dissatisfied with their muscles also saw themselves as...
skinnier than they actually are and to a greater degree than men who were satisfied with their muscles. The results were slightly different for body fat. The men dissatisfied with their muscles saw themselves as less fat than they actually were, but to a lesser degree than those satisfied with their muscles, who have an even more distortedly positive view of their body fat.

6.5 Mesomorphy Perception Distortion Subgroup

A subgroup from the whole combined sample was identified whose actual measured Mesomorphy was higher than their self-perceived Mesomorphy. Therefore, this subgroup sees themselves as less muscular than they actually are. The main reason that only the Mesomorphy Perception Distortion group was singled out for further investigation was its direct link back to the diagnostic criteria of Muscle Dysmorphia. Namely, this is the preoccupation men with Muscle Dysmorphia exhibit with being insufficiently muscular, also a characteristic of its precursor Reverse Anorexia and the male specific body image concern the Adonis Complex. They have been called the Distorted Mesomorphy Group (n = 18), and the rest have been called the Main Group (n = 36). The 18 men who made up the Distorted Mesomorphy group consisted of 11 controls, five bodybuilders and two footballers. This is not surprising considering the results of Hypothesis Three where the controls thought they were the least muscular compared to the other two groups and the footballers thought they were more muscular than they actually were. These two groups were compared on how they scored on the main variables of Muscle Dysmorphia, Body Affect (as measured by the Body Esteem Scale), Psychological Distress (as measured by the DASS) and Total Weekly Exercise.

Before any analysis could be performed, it was essential to first check the Normality of each of these new variables within each participant group, especially considering we expected the distributions to differ between the two groups. Of the four variables in the two groups only one returned a significant Shapiro-Wilk W, which was the Main Group on the DASS (W = .94, p = .046). Although this was significant, it was not strongly so, and the group also had a low Skewness (.56) and Kurtosis (-.54), and an inspection of the Normal and Detrended Q-Q Plots showed normal looking distributions. Therefore, the data was left as is.
6.5.1 Hypothesis 8: Investigating the Mesomorphy Perception Distortion Subgroup

It was predicted that the Distorted Mesomorphy Group would score higher on Muscle Dysmorphia, Psychological Disturbance and Total Weekly Exercise and lower on Body Esteem. This means that men who see themselves as less muscular than they actually are will experience higher Muscle Dysmorphia, higher Psychological Distress, exercise more and have lower esteem about their bodies.

To test the difference between the two groups for each of these variables, independent samples t-tests were performed (summarised in Table 11). Firstly, looking at Muscle Dysmorphia, the Distortion group (M = 31.89, SD = 7.58) had lower mean Muscle Dysmorphia than the Main Group (M = 33.31, SD = 9.97) which was not in the predicted direction (see Figure 13). The difference was, however, non-significant; t(52) = 0.53, p = .60. The same pattern also existed for the Psychological Distress variable, the DASS (see Figure 13). The Distortion Group (M = 16.1, SD = 8.97) had a lower mean DASS than the Main Group (M = 20.71, SD = 14.20), which also was in the opposite direction to what was predicted. Again, however, the difference was not significant; t(50) = 1.26, p = .21.

Table 11: A Summary of the t-tests Between the Mesomorphy Distortion Subgroup and the Main Group

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Mesomorphy Distortion Group vs. Main Group t-tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Weekly Exercise</td>
<td>✔ -</td>
</tr>
<tr>
<td>Muscle Dysmorphia</td>
<td>X</td>
</tr>
<tr>
<td>DASS</td>
<td>X</td>
</tr>
<tr>
<td>Body Esteem</td>
<td>X</td>
</tr>
</tbody>
</table>

✔ = significant t-test comparisons, X = non-significant, - p<.05 (Group 1 is less than group 2)
Figure 13: Mean Muscle Dysmorphia, DASS, Body Esteem and Total Weekly Exercise Scores by Mesomorphy Distortion Group

The one variable where the difference in the means was in the predicted direction was Body Esteem. Here, the Distortion Group (M = 119.67, SD = 20.54) had lower Body Esteem than the Main Group (M = 126.64, SD = 15.91) (see Figure 13). However, the difference in the means was not significant; t(52) = 1.38, p = .18. The last variable investigated was Total Weekly Exercise. This was the only difference that was significant, with the Main Group (M = 6.1, SD = 3.36) reporting more frequent exercise than the Distortion Group (M = 3.56, SD = 3.05), although the direction of the difference was in the opposite direction of that which was predicted; t(52) = 2.68, p < .05, \( \eta^2 = .12 \) (see Figure 13). So the only difference found between these two groups was that the men who did not see themselves as less muscular than they actually were exercised more than those who did. This significant result is unsurprising when you look at the composition of the two groups. The majority of the Main Group were athletes and the majority in the Mesomorphy Distortion Group were controls, whose pursuit of exercise would have been random and incidental, thus giving us the result that the Main Group exercise more frequently.
CHAPTER 7: DISCUSSION OF STUDY TWO

7.1 Overview

Chapter 6 showed that the majority of predictions in Study Two were not upheld by the data. Despite this, the results were still able to provide some information about the participant groups with regard to body dissatisfaction and body perception distortion.

7.1.1 Somatotype Perception Distortion

With regard to body perception distortion, the main prediction that was supported by the data came when the relationship between Mesomorphy Perception Distortion (MPD) and the behavioural and psychological variables from Study One were investigated. MPD was related to Body Esteem in that as men started to perceive themselves as being less muscular than they actually were, they also started to have more negative feelings about their bodies. They felt smaller muscle-wise, and they felt bad about that. MPD also had a relationship with exercise frequency as measured by Total Weekly Exercise, meaning that as the men started to see themselves as being less muscular than their actual measurements reported them to be, they also exercised less frequently. It turned out MPD was not related to either Psychological Distress, as measured by the DASS, or to Muscle Dysmorphia. It was surprising that MPD was not related to Muscle Dysmorphia, considering being obsessive about whether one’s body is lean and muscular enough is a diagnosable characteristic of the condition Muscle Dysmorphia (Pope et al., 1997).

Relationships between the variables from Study One and Ectomorphy Perception Distortion (EcPD) were also investigated. EcPD turned out not to be related to Muscle Dysmorphia or the DASS. It was also not related to Body Esteem, though if the relationship was significant it would have been in the predicted direction. EcPD was related to Total Weekly Exercise but it was in the opposite direction to what was predicted. This meant as men thought they were skinnier than they actually were measured as, they also exercised less.
The third of the somatotype perception variables, Endomorphy Perception Distortion (EnPD), was also investigated with regard to its relationship to the Study One variables. The data revealed that EnPD was not related to Muscle Dysmorphia, the DASS or to Total Weekly Exercise. However, there was an almost significant relationship with Body Esteem in the predicted direction. This suggests that it is likely that as men saw themselves as fatter than they actually were they felt better about their bodies. This may not make sense on face value, but it may hint to a ‘fear’ of being thin being greater than a fear of being fat.

Differences between the three participant groups were also investigated with respect to the three somatotype perception variables. This was done to examine if any of the groups could be categorised by a type of distortion in how they saw their own bodies. The groups were firstly compared on Mesomorphy Perception Distortion. The footballers saw themselves as more muscular than they actually were as compared to the controls who saw themselves as less muscular than they actually were. These results were in opposition to the prediction. The bodybuilders had slight tendency to see themselves as less muscular than they actually were, which was significantly different from the footballers but not from the controls. While the MPD orientation of the bodybuilders was in the predicted direction, its relationship to the controls was not as predicted.

Differences were also investigated between the groups on Ectomorphy Perception Distortion. Both the bodybuilders and controls turned out to see themselves as skinnier than they actually were, which was predicted. However, there was no significant difference between these two groups, which suggests that our initial prediction that the bodybuilders would have more of a distortion was incorrect. The footballers meanwhile saw themselves as less skinny than they actually were, which was significantly different from the controls but not the bodybuilders and again that was opposite to the predicted results.

The same investigation was conducted for Endomorphy Perception Distortion. All three groups’ distortion was in the direction indicating that they saw themselves as
less fat than they actually were. The bodybuilders had the greatest distortion followed by the footballers and then the controls. The polarity of the two experimental groups was in the opposite direction than predicted, where we expected them to see themselves as more fat than they actually were. The bodybuilders and the controls were the only groups who differed significantly from each other on that variable.

So, to summarise, in comparison to the control group, the bodybuilders had a greater distorted perception that they were skinnier than they actually were, and a greater distorted perception that they were less fat than they actually were. Keeping in mind that bodybuilders wish to increase muscle size and reduce body fat, these two distortions of perception seem to be contradictory: one is unduly negative and the other overly positive. The footballers, on the other hand, had a distorted perception that they were more muscular than they actually were and less skinny than they actually were in comparison to the controls. Both of these distortions seemed to be overly positive as increased muscle and body size is advantageous in elite AFL.

### 7.1.2 Somatotype Dissatisfaction

Somatotype Dissatisfaction was also part of the investigation in Study Two. It was predicted that those who were dissatisfied with either their self-perceived Endomorphy, Mesomorphy or Ectomorphy would also report higher Muscle Dysmorphia, higher Psychological Distress, lower Body Esteem and more frequent exercise. However, the data did not support any of these predictions. Whether participants were satisfied or not with any of the three somatotype components had no effect on Muscle Dysmorphia, Psychological Distress, Body Esteem or frequency of exercise.

As with Somatotype Perception Distortion, it was predicted that the two experimental groups of bodybuilders and footballers would report more dissatisfaction with their Mesomorphy, Endomorphy and Ectomorphy as compared to the controls. With Somatotype Dissatisfaction transformed into categorical variables, either satisfied or dissatisfied on each of the three somatotype components, analysing this prediction became about comparing participant groups on somatotype dissatisfaction/satisfaction.
So to examine the degree of satisfaction or dissatisfaction with each somatotype component for each participant group, percentages of those satisfied and dissatisfied with each component were determined for each group.

For the controls, almost two thirds were dissatisfied with their amount of body fat, wishing to be less fat. The proportions were reversed when it came to muscularity and thinness, with almost two thirds being satisfied with those aspects of their perceived bodies. The footballers were reasonably satisfied with their body fat and very satisfied with their muscularity, but just over half of the footballers were dissatisfied with their perceived skinniness, preferring to be less skinny. The bodybuilders seemed overwhelmingly satisfied with their bodies, with around 80% satisfied with their perceived body fat and thinness and over 90% being satisfied with their muscularity. This degree of satisfaction, particularly with regard to muscle, may be due to an upper limit on the photos of somatotypes they could choose to represent their desired body. A specific survey question was designed to investigate the issue of the upper limit on the Mesomorphy of the somatotype photos, and is discussed later in this chapter. With both the controls and footballers indicating there were aspects of their bodies they were not happy with, the prediction that the experimental groups will be more dissatisfied with their physiques than the controls was partially supported. However, that any differences between the three participant groups on somatotype satisfaction/dissatisfaction were non-significant, perhaps diminishing the ability to attach any specific pattern of body dissatisfaction to group membership. There is, however, a confounding factor that may have affected the ability of the bodybuilders, or perhaps other participants, to truly express their body dissatisfaction. This is discussed below.

The bodybuilders seemed to be reporting almost universal satisfaction with their physiques according to the methodology used here, but this should be reviewed with the benefit of more information. There was an upper limit on the muscularity of the photos offered for the participants to select to represent what they thought they looked like and what they wanted to look like. All were asked if they wanted to be more, less or as muscular as the photo of the most muscular somatotype photo. While the footballers wanted to be as muscular as the photo and the controls wanted to be less muscular, the bodybuilders wanted to be more muscular than the most muscular photo option. So the
degree of muscular satisfaction expressed by the bodybuilders in the body dissatisfaction analysis was an artefact of the limit of the photographic options. Most thought they looked like and wanted to look like Photo D (pure mesomorph), suggesting they were satisfied. It turns out they were not. It is therefore perhaps feasible that the between group comparison of somatotype dissatisfaction could have returned significant results had the bodybuilders the option of selecting a much more (or hyper) muscular option as their desired physique.

7.1.3 Somatotype Perception Distortion and Somatotype Dissatisfaction

Somatotype Dissatisfaction was also compared to Somatotype Perception Distortion. It was predicted that men who were dissatisfied with any aspect of their somatotype would also be more likely to have a distorted perception of that same aspect of their somatotype. The results showed that men who are unhappy with their perceived thinness, who want to be less skinny, also saw themselves as skinnier than they actually were. This supports the hypothesis. The somatotype component of Endomorphy or body fat was a slightly different story. Men who were happy with their body fat had a distortion where they saw themselves as less fat than they actually were, thus seeing themselves in a positive light and being satisfied with that. The men who were dissatisfied with their body fat also saw themselves as less fat than they actually were but to a lesser degree, thus not seeing their body fat in as positive a light as the satisfied men. So, dissatisfied men had less of a positive distortion, which would partially support the hypothesis.

Of the three somatotype components, it seemed Mesomorphy Dissatisfaction had the most impact on a participant’s somatotype perception. Men who wished they were more muscular also saw themselves as less muscular than they actually were. This supports the hypothesis that those who are dissatisfied with their Mesomorphy will also experience a perception distortion with respect to their Mesomorphy. In addition, unlike Endomorphy and Ectomorphy Dissatisfaction, Mesomorphy Dissatisfaction could also determine perception distortion on the other two somatotype components. Men who wanted to be more muscular also thought they were skinnier than they actually were. Men who wanted to be more muscular also thought they were less fat than they actually
were, but not as much as the men satisfied with their muscles, who even more
distortedly saw themselves as less fat than they actually were.

7.1.4 The Mesomorphy Distortion Subgroup

The final part of Study Two isolated a group of participants from the sample as a
whole. This comprised all the participants who had a Mesomorphy Perception
Distortion in the positive direction, meaning their actual measured Mesomorphy/
muscularity was higher than their self-perceived Mesomorphy/muscularity. In other
words, they saw themselves as less muscular than they actually were. This group was
called the Mesomorphy Distortion Group and the other group was called the Main
Group. It was predicted this group would have report higher Muscle Dysmorphia,
Higher Psychological Distress, more frequent exercise and lower Body Affect.

When the two groups were compared on Muscle Dysmorphia and Psychological
Distress (as measured by the DASS) there was no significant relationship, and, in
addition, the difference in the means was not in the predicted direction. Body Affect (as
measured by the Body Esteem Scale) also did not differ significantly between the two
groups, though the difference in the means was in the predicted direction. The only
significant difference between the Mesomorphy Distortion Group and the Main Group
was in Total Weekly Exercise. The Main Group turned out to report more frequent
exercise than the Mesomorphy Distortion Group, which was not in the predicted
direction. The reason for this will be discussed later in this chapter.

7.2 Distorted Body Perception, Muscle Dysmorphia and Psychological Distress

It was thought that if men saw themselves as fatter, skinnier or less muscular
than they actually were, then they would experience poor body image related
consequences. Although most research has identified this phenomenon as mainly
associated with distorted perceptions of muscularity (Pope et al., 1997; Connan, 1998;
O’Sullivan & Tiggemann, 1997), it would follow that if someone saw themselves as
less muscular, then they would also see themselves as more skinny. This is evidenced
by a significant negative relationship between Mesomorphy Perception Distortion and
Ectomorphy Perception Distortion in this study, where those men who tended to see themselves as less muscular than they actually were also tended to see themselves as skinnier than they actually were.

This study makes the assumption that the two experimental groups are both uniform enough to share common physique goals as related to their pursuits of bodybuilding and Australian Rules football, namely, increased muscle size and lower body fat. It is also assuming that the control group, being ‘controls’, would not be as concerned with their body or body image. So part of the investigation in Study Two was to determine if having a distorted perception about how your body looks or in fact its composition may be linked to cognitive and behavioural outcomes like those described by the condition Muscle Dysmorphia, or psychological outcomes such as depression, anxiety or stress.

We saw in Study One that Muscle Dysmorphia and Psychological Distress were not related, and in Study Two it seems that not only are these two variables not related to each other, they are also not related to having a distorted body perception, whether that be muscle, body fat or body thinness. So it can be said that, at least with the men in this study, having a distorted or inaccurate view of your own body is not associated with experiencing body image related behaviours, thoughts or general Psychological Distress. It is also possible that there may be protective factors coming into play for the bodybuilders and footballers that will be discussed later.

### 7.3 Distorted Body Perception and Body Affect

The main effect that having a distorted or inaccurate self-body-view had on the men in this study was on Body Affect as measured by the Body Esteem Scale. The only significant relationship that eventuated in Study Two with Body Esteem was with Mesomorphy Perception Distortion. So, men who see themselves as less muscular than they have been objectively measured as feel more negatively about their body’s form and functioning. This result with regard to muscularity supports previous research findings (Pope et al., 1997; Connan, 1998; O’Sullivan & Tiggemann, 1997). Of course, it is worth noting that Mesomorphy Perception Distortion was a two-directional
variable, and it is also true of the relationship identified in this study that men who saw themselves as being more muscular than they actually were reported more positive feelings about themselves. It may be that this is a self-protective mechanism, or there is a possibility that having a perception that your body is subjectively better than actuality is a result of already existing high body or indeed self-esteem. This would warrant further research.

The resulting relationships Body Esteem had with Ectomorphy Perception Distortion and Endomorphy Perception Distortion, while in the predicted direction, were not significant. The non-significant relationships were in the predicted direction where men who saw themselves as skinnier or alternative fatter than their objective measurements rated them, reported more negative Body Esteem. Distortion of a participant’s sense of body fat or body thinness has not had the research focus that muscularity has had, but with evidence that male body image concerns both a fear of being thin and a fear of being fat (Jones & Crawford, 2005, Pope et al., 2000; Capri et al., 2002), it would be a recommendation of this study for future research to keep in mind body fat and body thinness when investigating body image perception distortion in men.

The fact that the only significant results pertaining to somatotype perception distortion was with the component Mesomorphy may be due to the particular focus that both bodybuilders and footballers have on muscle in. Returning to the issue of sampling and recruitment, had the bodybuilder group been made up solely of competitive bodybuilders in preparation for a competition there may have been a significant result for Endomorphy Perception Distortion too. This would mainly be because these men would be both focussing on building muscle and losing body fat, something that would require different types of exercise.

7.4 Distorted Body Perception and Exercise

Research tells us that men who experience body image concerns that include a distortion of perception of their muscularity such that they see themselves as less muscular than they actually were also tend to exercise excessively (Pope et al., 1997;
Connan, 1998; O'Sullivan & Tiggemann, 1997). So it was expected that in the present study data would also reflect this trend, in that as participants saw themselves as less muscular or more skinny or fatter than they were in actuality via their measurements, they would also report more frequent exercise. The results revealed that, with regard to having a distorted sense of Mesomorphy or Ectomorphy, the relationship was actually in the reverse. Those who saw themselves as more muscular or less skinny than they actually were also reported more frequent exercise. There was no relationship between exercise frequency and Endomorphy Perception Distortion, which rules out the explanation that those men who saw themselves as less skinny and reported more frequent exercise were doing it because they perceived themselves to be too fat.

These relationships may be an artefact of differences in Somatotype Perception Distortion amongst the three groups. This would be explained by the controls, whose exercise pursuits would be random, perceiving themselves as less muscular and more skinny than they actually were and either the bodybuilders or footballers, who were selected because of their exercise pursuits, perceiving themselves as more muscular and less skinny than they actually were. This theory was investigated and the data supports it, as reported below.

7.5 Bodybuilders and Somatotype Perception Distortion

Bodybuilders and other men who are part of the gym culture have been shown to have the potential to develop body image concerns that include a distortion of how they see their own bodies, perceiving them to be smaller, weaker and less muscular than they actually were (Pope et al., 1997, and Loosemore et al., 1989). The bodybuilders in this study also reported a discrepancy between how they saw their Mesomorphy and where their Mesomorphy was actually measured in a direction indicating that their actual Mesomorphy was higher than their perceived Mesomorphy. This is what was expected but the overall difference was rather small. This weak result may be due to the lack of uniformity in the sample as suggested in the discussion of Study One. A sample of only competitive bodybuilders may have produced a larger discrepancy on Mesomorphy.
On this discrepancy, the bodybuilders were not significantly different from the controls who also reported a distortion of perception on Mesomorphy in the same direction as the bodybuilders but with greater discrepancy. Seeing that the controls are the ‘comparison group’, the prediction was that they would not experience a distortion of their somatotype. The fact that they did and in even greater (though not significant) degrees than the bodybuilders adds weight to the critique arising from Study One that the male university psychology students used as controls were not ideal for this research. In fact, the controls on this Mesomorphy Perception Distortion Measure were significantly different from the footballers whose discrepancy was in a negative and opposite direction and of similar size, indicating a perception of being more muscular than they actually were. These groups were essentially polar opposites of each other, as will be discussed later.

Considering the opposing relationship between Mesomorphy Perception and Ectomorphy Perception Distortion it was predicted that the bodybuilders would see themselves as more skinny than they actually were, and they did. This makes sense in that if the bodybuilders thought they were less muscular than they actually were, then they would also see themselves as skinnier. Again, the discrepancy between perception and actuality was not big but it was in the expected direction. As with Mesomorphy Perception Distortion, the discrepancy could well have been larger had the group been more uniformly made up of competitive bodybuilders and, as with Mesomorphy Perception Distortion, the bodybuilders did not differ significantly from the controls, but the controls, who were again expected not to report a distortion, did so and with a slightly larger though non-significant discrepancy in the same direction as the bodybuilders. This means the controls and bodybuilders saw themselves as skinnier than they actually were but with relatively similar levels of distortion. This was not expected. Sampling issues again may have played a part here.

Looking at the results of both Mesomorphy Perception Distortion and Ectomorphy Perception Distortion, the controls profiled much how the bodybuilders were expected to. The bodybuilders were positioned much closer to ‘no distortion’, though in the predicted direction, than they were expected to, thus reflecting results more akin to the expectations of the controls. It is hard to say if the controls’ perception
of being skinnier than they actually has a positive or negative impact on them as it needs to be determined if their ideal body shape is larger and more muscular or thinner. This question has been investigated by Hypothesis Six.

As for the bodybuilders, in addition to the potential sampling issues mentioned earlier, it is also worth considering the possible psycho-protective factor that exercise may play. Exercise has long been considered to have a beneficial effect on mental health for both clinical and non-clinical populations at a mild to moderate level, but can lead to detrimental effects at intense or excessive levels (Raglin, 1990; Paluska & Schwenk, 2000; Peluso & Guerra de Andrade, 2005). It may be that the less serious bodybuilders benefited from the exercise, while the more serious experienced deleterious effects. Although we do not have quantitative data on this question, the intensity of training performed by bodybuilders in this sample and the possible effects on mental or physical health was explored further in the qualitative interviews reported in Study Three.

7.6 Footballers and Somatotype Perception Distortion

Men who train in weight controlled sports like gymnastics (Drummond, 1999) and wrestlers (Pope et al., 2000) have reported having perception distortions of their body size, particularly to do with their degree of muscle. Australian Rules football is not necessarily a weight controlled sport but a player’s weight and body composition can be under close scrutiny by recruiters and clubs (Young et al., 2005; Pyne et al., 2006) and the media (Stevens, 2002; Gullen, 2003; Stevens, 2003; Anderson, 2007), plus research has shown that a player’s anthropometric measurements can predict or be associated with success (Young & Prior, 2006). With that in mind, it was expected that the footballers in this study would include members that perceived themselves to be smaller and less muscular than they actually were. As with the bodybuilders, it was also expected that if there was such a distortion in muscularity or Mesomorphy, there would also be a distortion in self-perceived thinness and potentially body fat.

The data revealed that while the bodybuilders, and to a greater degree the controls, saw themselves as less muscular than they actually were, the footballers saw
themselves as significantly more muscular than they actually were. It is possible that the footballers are experiencing a positive body perception distortion, by seeing their bodies as more muscular than they were in actuality, due possibly to the psycho-protective factors of exercise (Raglin, 1990; Paluska & Schwenk, 2000; Peluso & Guerra de Andrade, 2005). The primary psycho-protective effect of exercise is elevated mood but it can also improve body satisfaction, particularly in men (Raglin, 1990; Tiggemann & Williamson, 2000); furthermore, some studies have identified being a high school or college athlete as a possible protective factor against body image concerns such as eating disorders (Hausenblas & McNally, 2004), and general protective factors such as a positive outlook on life and higher self-efficacy (Fulkerson, Keel, Leon & Dorr, 1999). Why this psycho-protective factor of exercise did not also affect the bodybuilders is unknown, but it may be that their exercise was too intense or that their routine did not include enough aerobic exercise (Raglin, 1990; Peluso & Guerra de Andrade, 2005).

While the bodybuilders train hard to make the significant changes to their physiques required by the sport, the footballers in this study were also training hard to gain selection at the most elite level. Thus it is hard to deduce if the type and intensity of exercise performed by the footballers and bodybuilders had a protective impact on their body perception. This is a worthy subject for future research.

Although exercise as a protective factor may not explain the footballers’ distorted perception of a larger and more muscular body, looking at the masculine cultural norms in this team sport may. Australian Rules football has a culture, though always improving, that has been linked to – and weathered – various player scandals associated with alcohol use (Munro, 2000), violence (Hemphill, 2002), sexism and sexual assault (Toffoletti, 2005). All this is perhaps derived from a cultural adherence to a traditional, inflexible, hegemonic norm of masculinity. This football based cultural masculinity has even been observed in young high school players (Keddie, 2002) who are at an age where they see body image as a female or gay issue and not to be discussed comfortably, if at all (Hargreaves & Tiggemann, 2006). Much research has also alluded to the fact that men with poor body image also experience low levels of masculinity (O’Sullivan & Tiggemann, 1997; Forbes, Adams-Curtis, Rade & Jaberg, 2001; Drummond, 2002). The qualitative analysis of Study Three will look at the influence of masculinity on participants’ sense of body image.
In testament to the contrasting relationship between Mesomorphy Perception Distortion and Ectomorphy Perception Distortion in this sample, the footballers also saw themselves as less skinny than they actually were, and that was significantly different from the controls who saw themselves as skinnier than they actually were. The footballers also saw themselves as less fat than they actually were, but they were not significantly different from the controls who also saw themselves as less fat than they actually were. So, in essence, the footballers seemed to see their physiques in a better light than they actually were when objectively measured: more muscular, less skinny and less fat. Perhaps there are protective factors in the exercise they do as mentioned above, or perhaps the masculine culture of the sport they play elevates their sense of physicality and inoculates against or perhaps forbids their expression of poor body image. As mentioned above, the notion of masculinity with regard to body image will be explored in the qualitative Study Three.

7.7 Somatotype Dissatisfaction and Muscle Dysmorphia, Psychological Distress, Body Esteem and Exercise Frequency

This study showed that whether or not the participants were satisfied or unsatisfied with their own perceived muscularity, fatness or thinness did not impact on them experiencing characteristics of Muscle Dysmorphia or Psychological Distress, nor did it affect their feelings about their bodies or how often they would exercise. This could mean that although the men in this study selected desired bodies that were different from their own, it did not impact them emotionally or psychologically to be different from that desired body shape. This would support the research that found men were not as impacted at having a different body from that they desired as women (Wade & Cooper, 1999; Henriches & Calhoun, 1999; Furnham & Greaves, 1994; Koenig & Wasserman, 1995; Santor et al., 1994).

However, these results also counter other research linking poor body image with poor self-esteem, subjective distress and impaired social and occupational functioning (Pope et al., 1997; Connan, 1998; O'Sullivan & Tiggemann, 1997). They also oppose other research that reported that male youth experience as much body image associated
low self-esteem and depression as female youth do (Pope, Phillips & Olivardia, 2000; Paxton, 1999). It may be that the aforementioned factors such as the non-uniformity of the bodybuilder sample, the inappropriateness of male psychology students being control participants, the potentially self-censoring masculine culture of the footballers (Hargreaves & Tiggemann, 2006) or the psycho-protective nature of exercise on mental health at sub-intense/sub-elite levels (Raglin, 1990; Paluska & Schwenk, 2000; Peluso & Guerra de Andrade, 2005) could have influenced results that support the null hypothesis in this study. It may also be true that there is a non-linear relationship between dissatisfaction or body distortion and psychological or behavioural consequences, meaning that only the very body-obsessed or preoccupied men would have produced significant results. In other words, the sampling for this study missed including the men with the most extreme body concerns, or it may just be that these men don’t care too much about their body image.

7.8 Somatotype Dissatisfaction Amongst the Three Participant Groups

Due to the outcome of comparing the bodybuilders, footballers and controls on variables that contained two categories, the evidence here is not that strong. It was predicted that the two experimental groups (bodybuilders and footballers) would report more Somatotype Dissatisfaction than the controls. Analysis consisted of examining what percentage of each of the three groups reported being satisfied or dissatisfied with each of the three somatotype components of their own self-perceived bodies. While looking at the percentages that were and were not satisfied with either their muscularity, body fat or thinness gave a hint of what they may like or dislike in their bodies, the difference between groups was not significant. However, as mentioned earlier, the limit of choice particularly for bodybuilders could have swayed the results.

While much research has attested to the impact that poor body image can have on male bodybuilders (Pope et al., 1997; Connan, 1998; O’Sullivan & Tiggemann, 1997; Loosemore et al., 1989), the ones in this study turned out to be the most satisfied when it came to selecting a photograph of a somatotype that represents their own body and the photograph that best represents their desired body shape. They seemed very satisfied on all three somatotype components. In particular, they seemed
overwhelmingly satisfied with their muscularity, with over 90% of them choosing the same ideal and perceived Mesomorphy. All chose the same photo as their desired somatotype, the ‘pure mesomorph’ in Photo D. Knowing that bodybuilders desire a hyper-mesomorphic ideal body shape (Pope et al., 1997; O’Sullivan & Tiggemann, 1997), it is reasonable to think they might want to be even bigger than the man in Photo D. When asked directly about this in the questionnaire, the results showed that the bodybuilders as a group wanted to be more muscular than the man in Photo D. So while it may have seemed at first that the bodybuilders were satisfied with their bodies, it turned out they were not. Any future research into body satisfaction using this methodology with bodybuilders should ensure hyper-mesomorphic options for selecting a desired somatotype.

The footballers were more of a mixed bag when it came to Somatotype Satisfaction. Around two thirds were happy with their degree of body fat and 80% were happy with their muscularity. In addition, the same methodological constraint that affected the bodybuilders (i.e. the limited the size of Mesomorphy they could choose as their desired body) did not affect the footballers. We know this because when we asked them if they wanted to be more or less muscular than the ‘pure mesomorph’ in Photo D, they responded as wanting to be the same. Where the footballers were dissatisfied was with their perceived degree of thinness. Just over half were dissatisfied with their degree of thinness, meaning they desired a body that was less skinny. This is interesting, considering that earlier they were found to have a body perception distortion where they saw themselves as less skinny than they actually were. So they see themselves as less skinny than they actually are and desire to be even less skinny again. It may be that the footballers fear being thin, for functional or aesthetic reasons. This may be worth further investigation.

Perhaps this method of choosing photos that represent what the footballers thought they looked like and wanted to look like was less threatening than asking them how they felt about specific body parts and functions. This result could be more revealing than some of the others; they did, after all, also report significantly more Muscle Dysmorphia than the controls. It has been mentioned before that the masculine AFL culture may lead to these men self-censoring their responses to questions that don’t
seem very masculine. The notion of masculinity and body image will be further examined in the qualitative analysis of Study Three.

In terms of satisfaction or dissatisfaction with separate somatotype components, the controls were also a mixed bag: 60% or more were satisfied with their Ectomorphy (thinness) and Mesomorphy (muscularity) but about the same percentage were dissatisfied with their Endomorphy (fatness). Overall, the controls would seem the least satisfied with their bodies, which does go against what was predicted but supports the research that has found poor body image in general populations of men (Barber, 2001; Raudenbush & Zeller, 1997; Muth & Cash, 1997).

It would seem reasonable to suggest that all of the groups in this study experience some body dissatisfaction with regard to desiring a body that is somewhat different to their own. The weakness of empirical analysis here does detract from the power of the conclusion but it certainly encourages further research with these groups. So while there is some weak evidence that each of these groups desire to have a body different to the one they perceive they have, their dissatisfaction was not associated with Muscle Dysmorphia, Psychological Distress, Body Esteem and exercise frequency as reported in the previous section. This is interesting in itself, because it suggests that though the men experience some form of dissatisfaction with regard to their perception of their bodies, it is not directly linked to any emotional or psychological consequences as measured in the present study.

7.9 Somatotype Dissatisfaction and Somatotype Perception Distortion

The literature has told us that men who are dissatisfied with their physiques can also have a distorted perception of what their body looks like (Pope et al., 1993, 1997; Loosemore et al., 1989). In the present study we found that men-who desired a body that was less skinny also saw themselves as skinnier than they actually were. This supports the literature: these men desire to be less skinny but at the same time see their own bodies as skinnier than they really are, in a way distorting their view of themselves which potentially perpetuates their body dissatisfaction.
When it came to body fat, men who were both satisfied and dissatisfied with their level of perceived body fat also had a perception that their bodies were less fat than they actually were. The dissatisfaction category here was defined by men wanting to be less fat than they perceived they were, thus the perception distortion both groups reported was a way of seeing their bodies in a more positive light. While both groups saw themselves in a positive light where body fat was concerned, the group that was dissatisfied with their body fat did not have as strong a positive distortion as the satisfied group. So being dissatisfied with your body fat did not also mean distortedly thinking that you were fatter than you were, as in the case of Ectomorphy above. Though these dissatisfied men viewed their body fat with some degree of optimism, which in itself is interesting, it was not as optimistic as those who were satisfied with their fat. So in regard to the positivity of both groups, while the dissatisfied men are maybe more realistic about their body fat, they may also be missing out on the possible benefits of the more optimistic view the satisfied men have.

The literature referred to above is mainly concerned with dissatisfaction and distortion with regard to muscularity. In the present sample, men who were dissatisfied with their muscles and wanted to be more muscular also saw themselves as being less muscular than they actually were. Thus, as with Ectomorphy or thinness, they possibly perpetuate their thoughts of body dissatisfaction by seeing themselves as less muscular than in reality. This finding also supports the literature. However, Endomorphy dissatisfaction only led to a distortion on Endomorphy, and Ectomorphy dissatisfaction only led to a distortion on Ectomorphy, this was not that case for Mesomorphy. So not only did the men who were dissatisfied with their muscles see themselves as less muscular than they actually were, they also saw themselves as skinnier than they actually were. They did, however, see themselves as less fat than they actually were, which was an optimistic distortion, but were not as optimistic as the men who were satisfied with their muscles who expressed an even more optimistic distortion about their body fat. So the dissatisfied men were pessimistic about their muscles and skinniness and less optimistic about their fat as compared to satisfied men. This could all mean that, for men, being dissatisfied with your muscularity could impact how you perceive your body as a whole and not just how your see your muscles.
So it can be concluded that, with this group of men, body dissatisfaction can be associated with body perception distortion as previously reported in the research literature (Pope et al., 1993, 1997; Loosemore et al., 1989). But where they focussed on muscularity, the present study showed that being dissatisfied with your body fat or thinness could also be associated to a distorted body perception of those physical characteristics. It seems, though, that dissatisfaction with muscle might have the most impact on how a man sees his own body.

7.10 The Distorted Mesomorphy Subgroup

A subgroup of participants was selected from the total combined sample. These men had selected a perceived somatotype that had a lower Mesomorphy rating than the Mesomorphy rating they gained from actual anthropometric measurement. In other words, they saw themselves as less muscular than they actually were. With the literature telling us that men with this perception distortion experience poor body image, lower self-esteem and other negative impacts (O'Sullivan & Tiggemann, 1997; Pope et al., 1997, and Loosemore et al., 1989), it was expected that this subgroup would report similar impacts: that they would have higher Muscle Dysmorphia, higher DASS, lower Body Esteem and more frequent exercise.

The data revealed that the Mesomorphy Distortion Group did not differ from the Main Group of participants either on the Muscle Dysmorphia Scale or the DASS. Not only was the difference on these two variables non-significant but the difference in the means was in the opposite direction to that which was predicted. The two groups were also not significantly different on the Body Esteem Scale, though this time the difference in the means was in the predicted direction. The only significant difference was on exercise frequency, with the Main Group reporting more frequent exercise than the Mesomorphy Distortion Group. This was not in the predicted direction.

The Mesomorphy Distortion Group reporting less frequent exercise than the Main Group, as reported above, could be an artefact of the participant composition of each group. The Mesomorphy Distortion Group was made up of 61% controls, 27% bodybuilders and 11% footballers, thus most were not part of the sporting/athletic...
groups. The Main Group was made up of 36% controls, 25% bodybuilders and 39% footballers, thus most were in the sporting/athletic groups and more likely to be exercising regularly.

The lack of results going in the predicted direction with this subgroup could again have occurred for reasons already mentioned such as lack of uniformity in the bodybuilder sample, male university psychology students being inappropriate for control group membership in body image work, and the influence of the masculine AFL culture on the footballers experiencing, or perhaps admitting to experiencing, body image related concerns.

7.11 Critique and Conclusion

What Study Two tells us is that men who experience a distorted view of their own bodies, particularly with regard to their musculature and relative skinniness, have more negative feelings about or lower esteem about their bodies. It was interesting that having a preoccupation with not being lean and muscular enough is a diagnosable characteristic of the body image disorder Muscle Dysmorphia, yet the Muscle Dysmorphia Scale was not related to having a distorted sense of being skinnier and/or less muscular than one actually was. As mentioned in the discussion of Study One, this might be a problem with the scale that was used, as the validity of the Muscle Dysmorphia Scale is still to be determined.

As in Study One, any predictions regarding the variable Psychological Distress were not supported by the data. It was not related to having a distorted somatotype and did not differentiate those who saw themselves as less muscular than they actually were. Exercise seemed to be performed more frequently by those who see their own bodies in a better light then those who do not. This was discussed as perhaps being more affected by membership in an exercising (bodybuilders or footballers) or not-specifically-exercising (controls) group.

Footballers saw their bodies in the best light, perhaps influenced by football culture and hegemonic masculinity; this will be explored further in Study Three. The
controls saw their bodies in the worst light, again perhaps giving support to the idea that male psychology student are not the best representatives for males in general, although the notion of a control group may be difficult in male body image research when you consider the inconsistencies in the literature about whether everyday non-athletic men experience poor body image (Loosemore et al., 1989; Pope et al., 1997; Connan, 1998) or don’t (Wade & Cooper, 1999; Henriques & Calhoun, 1999; Furnham & Greaves, 1994). The bodybuilders hinted at predicted expressions of Somatotype Perception Distortion but were almost ‘out-distorted’ by the controls who were reporting data more akin to what was expected of the bodybuilders and footballers. Once again, a more homogenous sample of competitive bodybuilders may have produced stronger results.

Study Two also told us that desiring a body different to your own did not have any impact on Muscle Dysmorphia characteristics, Psychological Distress, Body Affect or exercise frequency. This suggests that though these men acknowledge that they prefer a different or better body, it doesn’t mean enough to them to affect them emotionally, psychologically or behaviourally. The critiques listed in this section may have played a part in supporting the null hypothesis here, but it also may be that the sub-intense exercise and sport performed by these men has a psycho-protective effect, inoculating them from the possible detrimental effects. It may be that none of the groups (as opposed to some individuals, perhaps) are exercising at enough intensity or excessively enough to produce impaired mood or other obsessive exercising or other possible impacts (Peluso & Guerra de Andrade, 2005).

We found out that footballers are dissatisfied with being skinny, controls with being fat, and that bodybuilders – though initially seeming generally very satisfied – wish to be much more muscular. This suggests that each of these groups experience body dissatisfaction and that this dissatisfaction is somewhat unique to the group and its physical pursuits and goals. A major conclusion in Study Two found that, from the whole sample, somatotype dissatisfaction was linked to a having a distorted self-perception of one’s body. We know that men who desire to be more muscular can experience a distorted view of their own muscularity, with a muscular man looking in the mirror and seeing a skinny man (Pope et al., 1993, 2000; Olivardia, 2001). In this study, we found that the same could be said for men wishing to be less skinny who saw
themselves as distortedly more skinny, and men who wanting to be less fat seeing
themselves more accurately with regard to fat but less optimistically as men satisfied
with their fat. Also new in this study was the result that men who wish to be more
muscular not only see themselves as less muscular, but also as skinnier as compared to
satisfied men. In addition, muscically dissatisfied men see themselves more accurately
with regard to body fat as compared to satisfied men who have optimistically distorted
view of their body fat.

Why do the footballers report higher levels of Muscle Dysmorphia than the
controls yet perceive their own bodies as more muscular, less skinny and less fat than
they actually are? Why does the dissatisfaction seen in all groups when comparing
photos chosen as desired and self-representative physiques not appear related to any of
the variables from Study One? Are the men in the control groups really appropriate to
be controls in a study of this nature? With much research attesting to the body image
related problems of male bodybuilders, is the quantitative data in these studies truly
reflecting the experience of body image concerns of those in this sample? After all, they
reported high levels of Muscle Dysmorphia but also had high Body Esteem in Study
One, then acted more like controls than the controls did in Study Two. There are several
questions left unanswered by the data in Studies One and Two and it will be the task of
the open, explorative qualitative examination in Study Three to perhaps shed some light
on the contexts of men in each of the three groups of this research.
CHAPTER 8: STUDY THREE RESULTS AND DISCUSSION

8.1 Overview

A thematic analysis (Braun and Clarke, 2006) was conducted to identify themes arising from qualitative interviews made with nine participants, three from each participant group. Themes will be reported then discussed in order to get an understanding of the nature of body image in these men and to paint a picture of the contexts in which negative and positive body image is experienced. Of particular interest are the contributors to positive and negative body image, the impacts of poor body image and the potential role of masculinity in men’s body image. In total, five themes and four sub-themes emerged from the data. These are described below and the final thematic map is represented in Figure 14.

Theme: Internal Contributors to Body Image
These are core beliefs about body image that perpetuate poor body image consequences. These include the importance of body to self-concept and internal pressures to look a certain way.

Sub-theme: Masculinity
The way expressions of more traditional masculinity input to poor body image, from needing to embody manliness to warrior attitudes and competitiveness. This includes possible gender role strain where body image is considered more of a women’s problem.

Sub-theme: Body Focus
Having a particular focus on one’s own body, including valuing its appearance and admiring and judging other male’s bodies. This includes expressing some knowledge of the science of body improvement and body image disorders.

Theme: External Contributors to Body Image
This involves the environmental influences on poor body image from media, to other men’s bodies and other people’s comments and perceived valuing of the male body.
Sub-theme: The Ideal Body
A sense of what the participants felt was important to their aspirations of the ideal body and what was to be avoided body-wise. Essentially, what is and what is not part of the male body ideal to them, in particular, more muscle, less fat and a focus on abdominals and upper body.

Theme: Emotional and Cognitive Consequences of Poor Body Image
This involves a description of the types of thoughts and feelings that are a result of experiencing poor body image. Feeling body self-conscious or lacking social confidence were featured emotional consequences and intrusive body image thoughts, and judgements of body being generalised to judgements of self were featured cognitions.

Theme: Behavioural Consequences of Poor Body Image
This includes a range of behaviours that are consequences of poor body image. Dieting, over-exercising, exercise impacting on life balance and use of performance enhancing substance are features of this theme.

Theme: Body Image Protective Factors
In this theme, characteristics and behaviours that either protect from poor body image or indeed promote positive body image were identified. These mainly concerned notions of life balance, being realistic about one’s body and acknowledging its strengths instead of weak points.

Sub-theme: Body Function Valued Over Appearance
An associated protective factor is the focus on what the body can do, such as improving strength or improving sport, instead of how it looks. This is especially so when this is the goal of why the men are exercising.
Figure 14: The Final Thematic Map (the circles are themes and the rectangles are sub-themes)

Though there were insufficient participants interviewed from participant group to justify a complete qualitative investigation of each group, differences and similarities between the groups will none the less be explored.

8.2 Factors That Contribute to Poor Body Image

8.2.1 Internal Contributors to Body Image

This theme represents the attitudes, beliefs and assumptions made by these men that may contribute to poor body image. These are internal factors that contribute to poor body image as opposed to external contributors such as media portrayals of the male body ideal. Several participants talked about how important achieving their ideal body was, and for some it seems to trump most other areas of their life.
Interviewer: So at the moment how important is it for you to achieve that revised version of your ideal body?

James: Um, probably one of the most important things to me, in my life. It always has been and it’s never really diminished, it just gets harder as you get older and, um... personal circumstances change. And you get kids and, um, you get a mortgage and work pressures become greater and everything, but deep down I think it’s still the same and I would still very much like to achieve, um, the goal that I have in my mind. Um... and just have the optimal physique that I can achieve for me, I guess. That is probably more what I would like to do now. (James, 36, bodybuilder)

James expresses here how much of a top priority the pursuit of his ideal body has been. As his life has changed, he has accumulated new priorities such as fatherhood, but he describes the ongoing pull of his desire to achieve his ‘optimal physique’. Another participant also talks about the pull of the desire to improve his appearance.

Interviewer: What would be your ideal body shape and how important is it for you to achieve that?

Rick: I guess it would be tall and athletic, not overly built but just low body fat, fairly healthy muscle. Well, as far as importance, I guess I spend a lot of time telling myself I don’t really care that much how I look. But I guess because of what I do I really don’t have to worry about it. But I think it does change how I interact with people. Now that I’m in that period where I am feeling down about how my body is, it does change how I interact with people. I think also, I don’t know if it could be coming from that or not but the vibe I give off from that is ‘Don’t interact with me’.

Interviewer: You mean like a social confidence sort of thing? So if you’re happier with your body, you feel like you’re a bit more confident?

Rick: Mm. (Rick, 24, control)
What is interesting here is that Rick says he spends ‘a lot of time’ telling himself that his appearance doesn’t matter to him. Even though these thoughts or self-talk are about physical appearance not being important, they do none the less seem like intrusive thoughts about appearance. As much as he may not want to believe that his appearance is important to him, he finds evidence that contradicts his self-talk, particularly the impact of his body not being where he would like it to be has on his social confidence.

For several participants, not only was achieving their ideal body of great importance in their lives, but so was the overall size of that body. These men valued a large body size, but it needed to be made of muscle not fat. While most interviewees talked about wanting bigger muscles, some went further to discuss how important it was for them to be big overall. For them, bigger was very much better.

*Interviewer:* Is that mainly size or does that include shape or particular parts of the body, are they important?

*James:* Um, size is probably the main thing. But you’ve still got to have a decent amount of shape about you, you know, you’ve still got to be seen to be fit but with size and strength. I guess it’s just looking strong that is the important... is the key. If you look strong and imposing, um, then you pretty much... it does... it makes me feel more comfortable but it tends to create an image I think within my peer group and the people I work with, that they kind of welcome, in a way. You know, and it just works in so many ways with the job, I guess.

*Interviewer:* So there’s a cultural expectation as well?

*James:* Very much... (James, 36, bodybuilder)

James talks about how he values an overall large physique. He also describes the context in which his ‘bigger is better’ physique ideal is reinforced both with the nature of his work and perhaps the work place culture. He says that looking strong and imposing is important and is equated with body size. While some participants believed
in the importance of body size, some also believed less is better when it came to body fat. Several talked about how body fat needed to be avoided and that life would be different for them if they ever were to get fatter.

Tim: I know I’m a good person regardless of my body. I don’t think... especially recently... like, my body weight hasn’t been at a level where I felt it impacted on the way people have viewed me and it does... and like, you know... you know it... fat people, severely fat people and even a little bit fat people are treated differently. They not, um, like, sexually attractive. You, know even middle aged women that, you know, generally aren’t going to show their attractiveness to... you know, show their attractiveness to a young person... you know, it’s just an attraction thing and if you’re an attractive person, as you know, people are going to treat you different. Like it’s a lot easier to be nice to people that are nice to look at than, you know, a fat person. Like, 40 year old women go to bloody bucks parties and, you know, if there’s a guy dancing there with his top off and a ripped body, you know, they’ll go wild. That’s the way it is, you know. You’re treated differently because of the way you look and it’s not fair, and this trend should change, but I don’t think it will. (Tim, 21, bodybuilder)

Here Tim articulates what might be driving many of the participants’ feelings about needing to avoid body fat. He talks of his beliefs about how ‘fat’ people are judged and treated in general and perhaps by him too. This may be a reflection of societal norms in Western culture but it is also something he and other participants may have taken on as their own core beliefs about body image.

In The body image workbook, Cash (2008) identifies 10 common appearance assumptions that form core beliefs for people with body image concerns. Cash explains that these assumptions about the meaning of your looks in your life can come from various sources such as traumatic insults, family messages or cultural socialisation. The beliefs and values expressed by participants in this theme could all be associated with the common appearance assumptions listed in Cash’s book. For instance, the participants in the present study for whom it was very important to achieve their ideal body may subscribe to the appearance assumption that ‘My worth as a person depends
on how I look’ or ‘I should always do whatever I can to look my best’. Holding these assumptions would likely lead to a person placing a high or even top priority on achieving their ideal body.

The men in this study who also highly valued having a large overall body size may also subscribe to these assumptions plus another: ‘Physically attractive people have it all’. Remember James suggested that having a large body would hold the esteem of his friends and the respect of his work colleagues. This valuing of or even preoccupation with body size was featured in the description of the Adonis Complex (Pope et al., 2000), and in the characteristics of the body image disorder Muscle Dysmorphia. The identification of Muscle Dysmorphia characteristics from these interviews is consistent with the findings of Study One which identified significant differences between the groups on this variable.

Muscle Dysmorphia is not only characterised by the pursuit of larger muscles but also a leaner body, and this was also evident in the interviews, where men like Tim described why they avoided or perhaps even feared putting on body fat because of the way they believed overweight people were judged and treated in western society. Anyone subscribing to this belief may be guilty of the type ‘fat prejudice’ described by Thompson et al. (1999) in the first chapter of their book *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. They talk of the many media sources that perpetuate the disparagement of fatness and how body size is seen in general still as an acceptable target for prejudice. But what Tim describes may be a strong justification for forming the type of ‘fear of fat’ that can be a feature of body image and eating disorders (Pope *et al*., 2000).

Coming back to the appearance assumptions of Cash (2008), the men in Study Three who talked about wanting to avoid fat or perhaps even fearing fat could be under the influence of assumptions like ‘By managing my physical appearance, I can control my social and emotional life’ or ‘My appearance is responsible for much of what has happened in my life’. Both of these assumptions give weight to one’s appearance having reach and influence into many other aspects of their life, much like they believe being obese might impact many other facets of their lives. Cash explains that the
appearance assumptions are the foundation upon which body image self-talk sprouts and from there grows the poor body image emotional, cognitive and behavioural consequences that are reported and discussed later in this chapter.

8.2.1.1 Masculinity

With body image perhaps being seen traditionally as a women’s problem, it may be possible that men who experience poor body image could also notice an impact on their sense of masculinity. A sense of masculinity may also interplay in other ways such as men striving to embody their masculinity in big muscular physiques (Mishkind et al., 1986). The notion of masculinity came up in several ways in the interviews in Study Three, but all were regarding the beliefs or attitudes of what it is to be masculine. It was considered to be a sub-theme of the over-arching theme of Internal Contributors to Body Image.

There were men in this study who did literally believe that their sense of masculinity came directly from their body.

Interviewer: How does your body make you feel more or less masculine?

James: Um... I guess I would say I rely on my body 100% to make me feel masculine. Um... I don’t know, it’s something... something I’ve always believed and probably more so since I’ve been a policeman, which is nearly 18 years now. Um, but it tends to be the thing that is respected and gets, um, the attention of people. More so than anything else, it gives me the confidence I feel I need to do my job well. (James, 36, bodybuilder)

OR

Interviewer: How would life be different if you achieved that ideal body shape?

Greg: I think obviously confidence; everyone would say that, I think. I think a great feeling of self-efficacy, that I’ve really been able to achieve something.
That I am able to do that, I have control over my own body. So you have that sense of being confident in everything you do in your body. So if I had my ideal body I would have my strength, speed. As far as maybe being a security in your manhood maybe with, you know, that feeling of manliness. Yeah, you could have more confidence with women. I think you would also feel more confident around other guys. You’d feel like a pro fight sort of thing, you wouldn’t feel less of a man. (Greg, 22, control)

Both of these men felt their masculinity or sense of manliness came directly from their bodies. Both also said they would feel more confident. James talks about gaining respect amongst his peers and Greg talks about confidence with women and even invokes his inner ‘warrior’, suggesting he would feel more confident around other men in a ‘pro fight’ kind of way. So it seems the physically masculine man may gain some kudos around other men, be more sexually attractive to women and be ready for any male conflict that might arise. The issue of confidence will be discussed when the theme of Emotional and Cognitive Consequences of Poor Body image are reported later in this study. However, the warrior metaphor is very much part of the sub-theme of Masculinity and will be explored next.

The issue of self-defence and the defence of others is something that was given as motivation for trying to achieve their ideal body by several men. For the footballers it was definitely related to their own physical protection in a contact sport like AFL.

Interviewer: I guess you can’t get any taller, I suppose, but you talked about getting bigger so you can absorb injury and impacts, is it pretty important to try and do that?

Casey: Um, yeah, it gives me more of a physical presence on the ground, and when you get hit and stuff, you don’t pull up sore and stuff like that.

Interviewer: Does that affect your confidence with regards to the more physical part of the game? As to how well you feel you can cope with it physically?
Casey: Uh, yeah, I guess so, if you’re running back into a pack. I guess if you felt you were strong enough you would go in a bit harder than what you would if you did not. (Casey, 19, footballer)

But for others it was very much about threats to safety in everyday life. Whether it is about believing they can defend themselves...

Interviewer: How does your body make you feel more or less masculine?

Tim: Um... probably my arms to some extent help me feel like it’s, um, probably a primal sort of thing like to ward off, sort of people who might have a crack. And I feel that probably has, on occasion... like I think maybe they look at me and they think, you know, if he can fight, you know, that he can... he’s got a fair bit of size behind him, you know... he probably wouldn’t do it. Largely so people leave me alone. (Tim, 21, bodybuilder)

... or others, particularly women.

Interviewer: You’ve talked about this already. How does your body make you feel more or less masculine?

Greg: Yeah, um, I think an ideal body, my ideal body in my mind is, you know, that strength and that whole thing as well. I guess, you know, that goes hand in hand with that feeling of, um, being strong and being able to – you know, one of the main things is being able to defend yourself but more importantly being able to defend the woman you’re with. There would be nothing worse than being with a woman and she’s being harassed, and not being able to do anything about it. I think that, um, you know, being in good shape just sort of goes hand in hand with that. (Greg, 22, control)

However, the most surprising disclosure around a man’s need for his body to outwardly be able to invoke the warrior within was when control group member Greg
was asked about whether he felt competitive with his body as compared to the men around him.

Interviewer: How competitive do you feel about the appearance of your body as compared to other men, either those men you know or those you see in the street?

Greg: Um, as far as guys on the street, I don’t feel competitive, once again, I see a good body, I go „Mate, that’s fantastic“. I feel like really congratulating them for that, because they’ve really worked hard, and achieved it. So it’s accolades that they really deserve. With friends I feel a lot more competitive, like I definitely want to have a better body than them. It’s pride, I just want to feel big because there’s always competition between friends. But I’ve also, I’ve found with my friends there’s that physical side. So if anything ever got nasty you want to know that you are able to defeat them. It’s also a domination thing in the relationship as well.

Interviewer: You mean if things got nasty between you and your friends?

Greg: Yeah, you know, sometimes you are joshing but if it ever came down to having to put your friend down, I know it sounds kind of barbaric. It makes you feel like you’re the dominant one in the relationship. It’s the domination in the male to male relationship. (Greg, 22, control)

It seems the inner warrior is ever vigilant to possible threats from any quarter, including friends. Perhaps what Greg, and even Tim, is suggesting is that within men’s interactions with other men there is always that potential for physical conflict, and the body needs to be ready by being and looking physically strong and imposing. Inherent in this sense of warrior vigilance is possibly a natural sense of male competitiveness. Competitiveness is a notion that was discussed by many of those interviewed.

Competitiveness may seem like a natural quality for anyone involved in athletic pursuits, such as the footballers and bodybuilders. However, it can certainly push people
beyond their usual limits. This was evident in some of the participants’ stories. With regard to exercising, some found that exercising around other men enticed them to train much harder than they perhaps planned.

*Interviewer:* How competitive do you feel about your performance in the gym or during other exercise activities as compared to the men around you?

*James:* Um, the same, very much so. I guess I view the gym as my domain and my home and if I’m in there I always give it 100%, but I also acknowledge what other people are doing lifting, whatever, and you know. I will always be competitive in some shape or form, you know, towards them within reason. Obviously I’m not going to be able to compete with someone using steroids and things but, you know; um, I will still… it will still drive me to lift more than I would normally lift or have considered lifting on that particular day. Just to be seen to be doing something that’s at least competitive against them. Whilst they might be lifting three 5400 pound squats, I might have been planning to do 200, by the end of the session I will probably be doing 300. You know, just to be at least near the ball-park.

*Interviewer:* Is that just with the weights or with other exercise too?

*James:* Ah, it’s with everything. With the cardio I give it 150%. And when I walk – I walk around Albert Park Lake most mornings – I don’t let anyone pass me, and if I see anyone up in the distance I’ll make sure I get past them, no matter how far they are in front of me and how fast they’re walking. Yeah, I guess I am highly, highly competitive in that regard. And I do think, what I said before, now that I think about it, it would be true that the more confidence I have in my own, um, ability the more competitive I actually become. (James, 36, bodybuilder)

James talks about how seeing others in the gym performing well almost compels him through his sense of competitiveness to perform, not equally, but in excess of what he has observed from his ‘rival’. The way James describes the compelling nature of his
competitive streak, it can be possible to see how this could lead to the potential for over-
training, another characteristic of Muscle Dysmorphia (Pope et al., 1997).

James mentioned the importance of being seen to be ‘doing something that’s at
least competitive against [other men in the gym]’. One of the footballers, Tommy, had a
similar reflection.

Interviewer: How competitive do you feel about your performance in the gym or
during other exercise activities as compared to the men around you?

Tommy: I try and be pretty competitive in the gym. Definitely because, yeah, I’m
one of the, well, skinnier guys and I try and, yeah, get up there and... yeah,
pretty competitive in the gym. I always try my best to... to get stronger.

Interviewer: Yeah, because you think you’re skinnier you... you want to be seen
to lift more, is that what you’re saying?

Tommy: Um, not so much to be seen to lift more, or maybe just be seen to be
working hard... And, yeah, just to be seen around but not to be lifting more.

Interviewer: What about in the running exercises and other sorts of stuff?

Tommy: Oh yeah, def... yeah, always want to score a good result and... yeah,
just so the blokes around you know what you can do. And know what you are
willing to do.

Interviewer: Yeah, is that all about team building and stuff, in a way? You’re a
good team member?

Tommy: Ah, yeah, it’s just a trust kind of thing. (Tommy, 19, footballer)

For Tommy, more so than perhaps what James was saying, it was essential to his
stance in his football team that he be seen to be working hard in the conditioning
training like weight lifting as he is “one of the, well, skinnier guys”. It’s perhaps part of the team culture to be seen to be pushing your physical limits to show the others “what you are willing to do”. Whether it’s the culture of the gym or of the football club, both these men describe a competitiveness that drives them to test their physical limits.

Competitiveness was not just in the realm of exercise. Some men were also competitive with other men on how their bodies looked. Again, bodybuilder James provides a very rich description of this notion.

Interviewer: How competitive do you feel about the appearance of your body as compared to other men, either those you know or those you see in the street?

James: Very competitive, yeah, very much so. I guess I’m always comparing in my mind... and I have a, you know, a group of people I associate with and work with who are similar, once again likeminded guys, my height, my build, um, very competitive people. So I guess, yeah, yeah, always trying to ensure that you’re, you know, at least up there with them if not above them at any given time.

Interviewer: And where does that come from, that drive?

James: Ah, that’s a good question. I never used to think I was competitive until probably the last probably six or seven years. Um, but it turns out I’m probably one of the most competitive people I know. So, um, yeah, I’m not sure actually. I think the competitiveness comes with... I think it’s actually come with confidence and come from actually achieving or starting to achieve the physique that I want. So as I’ve actually started to believe in myself and believe that I actually am not too bad, I think that’s where the competitive nature has actually evolved from. (James, 36, bodybuilder)

James found that as he noticed success in his ability to improve his body through exercise, he believed he could attempt to attain a body that was comparable to if not better than the bodies of the men he admired around him. Constantly evaluating your body satisfaction based on comparisons with the bodies of men around you could place
you in a situation where you are never satisfied as you continue to find bodies to compete with. Again this is a situation that could lead to over-training, a characteristic of Muscle Dysmorphia. While competitiveness may be linked to Muscle Dysmorphia, its link to Masculinity, the name of this sub-theme, might be less obvious. This link will be discussed further later in this section. But first the feminisation of body image, which is directly associated with masculinity, is examined.

Considering body image or appearance problems as more a feminine issue or women’s problem could cause extra distress in a man experiencing poor body image. It could also mean that he might never express his concerns to a friend, family member or health professional, adding to the isolation he may already be feeling. In the present study, several interviewed participants reported that they thought body image was more of a women’s problem.

**Interviewer:** Ah, yeah, is it more an issue for women? Or is it more of a women’s issue than a man’s issue to be worried about your body?

**Tim:** I think it’s probably a bit of a misconception but, um... I don’t know, because of the anorexia and stuff and it’s probably fairly well noted women are often more concerned about things like that than males. Yeah, it is generally, like I think that’s a fact than an opinion. I think it’s a fact that guys are probably... that girls are more, um... at least, I don’t know that they’re necessarily more worried about their bodies but they certainly take it to more extremes, and more regularly than males. Like, you don’t see too many guys putting their fingers down their throat and starving themselves like you do women. (Tim, 21, bodybuilder)

So Tim, who also talks about his own body concerns in his interview, might feel more marginalised by experiencing feelings about body dissatisfaction which he thinks is more an issue for women. He says he thinks body image is experienced by women more frequently and in a much more ‘extreme’ way. When a man unfavourably compares himself to a rigid or hegemonic definition of masculinity, of what it is to be a
man, he can experience distress which is called Gender Role Conflict (O’Neil, Good & Holmes, 1995).

Focussing back on masculinity and body image, Mishkind and associates (1986) first talked about men embodying their masculinity in an attempt to overcome the loss of other avenues of expressing their manhood, such as their occupation or place in the family post-feminism. The current author also found that poor body image was related to a lower sense of masculinity in men who train with weights (O’Sullivan & Tiggemann, 1997). Not surprisingly, quite a few men interviewed in this part of the study also said that their body determined how masculine they felt. Muscles were masculine. In The Adonis Complex, Pope et al. (2000) also discuss the issue of men’s bodies being the last bastion of their ability to express their masculinity in an age of women experiencing more parity with them. When they come to challenging this need in men who may experience this pressure, they emphasise the importance of remembering that masculinity is not defined just by how you look: although men believe women desire men to have super-muscular bodies, in actual fact, research says they don’t. The authors finally assert that muscularity is not masculinity.

In Drummond’s (2002) qualitative study on men who suffer from eating disorders, he discovered through interviews with eight men that one theme which arose that has not previously been identified in females with eating disorders was the notion of competition. He described men who competed to be the ‘best eating-disordered male’ or to appear the ‘sickest’ of all the males with eating disorders presenting at clinics. This illustrates the disturbing affect of the interplay between the notion of competition and body image. In the non-clinical sample of the present study, the competitiveness was not about appearing the sickest, but the need to appear bigger and more muscular than male peers and to be seen to be physically performing (lifting weights) better than the men around them. This was even taken to the point of pushing themselves physically up to and perhaps beyond their physical limits. More specific investigation on the influence of competitiveness on male body image would be recommended.

Hegemonic or traditional masculinity has been characterised by three factors: emotional detachment, objectification of women and competition (Bird, 1996).
Competition comes from the nature of male groups where individuation is valued as opposed to likeness and harmony leading to the forming of hierarchies. Donaldson (1993) summarised how all those who had written about hegemonic masculinity up to that time had characterised the concept. He said it is the fear of being like women, a culture that can be realised both in the individual and the collective, is part of the ‘common sense’ of breadwinning and manliness, and is ‘exclusive, anxiety provoking, internally and hierarchically differentiated, brutal and violent.’ Both the competition required to feed the hierarchical nature of hegemonic masculinity and the brutal and violent characterisation noted by Donaldson were evident in the ‘warrior’-like attitudes of some participants in the present study, such as James, who described needing to be big and muscular to be able to "put down" his friends if anything ever got nasty.

It seems that the degree to which the men in this study hold on to ideals of hegemonic masculinity may influence whether they pursue the embodiment of masculinity in the form of the super-muscular male physique or feel compelled to compete with other men on the size of their body or in their performance in the gym. For those who feel they are not yet embodying the masculine ideal body or who feel they are not in a competitive position with their body or their performance in the gym, it is likely they will be feeling body dissatisfaction. But what if they also felt that body dissatisfaction was more of a female concern, as some in this study did? O’Neil et al. (1995) would say that these men would be at risk of experiencing Gender Role Conflict.

Gender Role Conflict is considered a psychological state where socialised gender norms have negative consequences on the person. It arises when restrictive, sexist or rigid gender roles cause distress such as personal restrictions, devaluation or violation of self or others (O’Neil et al., 1995). In the present study, this could occur when a participant talks about trying to build the ideal masculine male body, yet also believes it’s not manly to be worried about your physical appearance, as some men reported. This situation may cause distress to these men or it might prevent them from admitting their problem.

Both traditional masculinity (Berger, Lavant, McMillan, Kelleher & Sellers, 2005) and gender role conflict (Good & Wood, 1995; Robertson & Fitzgerald, 1992;
Wisch & Mahalick, 1995) have been linked with poor help seeking in men. This means they are less likely to talk to professionals. In addition, men are hesitant to express a range of emotions, especially to other men, and can experience rejection and punishment if they do so (Good, Dell & Mintz, 1989) which may cause them to be less likely to talk to their peers about their body concerns. This will be discussed later in reference to the footballers and their masculine culture. Overall, it seems masculinity does play some sort of role in men’s experience of body image and definitely should be considered when researching this in the future.

8.2.1.2 Body Focus

The sub-theme of Body Focus is a collection of codes that indicate a participant has a particular orientation towards focussing on their body or placing value or importance on the body. This could include valuing its appearance and admiring other male bodies, also having some knowledge of the science of body improvement and body image disorders. Scientific knowledge of physiology and diet may indicate that these men have been educating themselves about the science of improving their body. This was considered a sub-theme of the theme Internal Contributors to Body Image because it relates to some of the assumptions identified by Cash (2008).

Several participants talked about how important the appearance of their body was to them, and that the main focus of all their physical training is how they look and not necessarily how they perform. A good example is what James said when asked how life might change if he realised his ideal physique.

*Interviewer: If you did achieve this idealised body, how would life be different?*

*James: Well, knowing me, it would just be that I would revise it to another target. I would like to think that I would be happy with it and that that would just look at maintenance and that sort of stuff, but realistically I would probably just change my opinion and want to either go higher or... or change it again to another... I don’t know, maybe a slimmer leaner version or... or whatever. Um, I guess ultimately I’m not gearing it towards sport or to any other goal, it’s pretty
much appearance value, predominately appearance value only. You know, while it certainly does help me in day-to-day life and helps with some of the sports I play, um, to me it’s really about appearance. (James, 36, bodybuilder)

While James acknowledges that there are some functional benefits to training his body, all his focus on his training and his body goals is primarily his appearance. Just from the above passage it is possible to get a feel for James’ valuing of his physical appearance and how much of a priority it is in his life. Other participants talk about the pride they associate with the body they can achieve.

Interviewer: So that body that you’ve just described that’s six foot four and full of muscles, how do you think life would be different if you were able to achieve that?

Casey: I don’t know, just be a bit more proud about yourself and, uh, because you’ll probably play a bit better football, I guess.

Interviewer: Now when you say proud, do you mean having achieved it or..?

Casey: Yeah, yeah, you know, I guess that, I don’t know, if you look good you feel good, I guess. (Casey, 19, footballer)

Interviewer: So last year before you got your body in shape, how did you feel about yourself?

Greg: Yeah, I was not feeling too confident, I was not carrying myself very well, not very assertively. The only difference was because I was so damn big, I was just huge. I was having trouble getting into extra large tops. So that was one thing that was hard, I was really big. It was more confidence wearing clothes and how I looked. It was sort of interesting ’cause when I dropped all this weight, I had this, I don’t know, I had this initial feeling of vulnerability, ’cause I lost all my size. So I was feeling all vulnerable and weak. I did, when I passed guys in the street, I started to think of vulnerability, which I wouldn’t have had
when I was so big. But at the same time, I just thought I felt fresher, I felt fitter. I felt more comfortable around my girlfriend. I was not uncomfortable around her before, but I was more proud, I could take my clothes off. But she did not care; she’s just one of those girls that goes „whatever.“ (Greg, 22, control)

Greg is perhaps a bit more forthcoming than Casey in his description of the pride he would feel achieving his ideal body shape, but both talk of pride and of feeling good or feeling more confident. Greg’s response gives us a bit more of an idea as to why his body appearance is so important, it prevents him from feeling vulnerable around other men and it helps him feel more sexually confident around his girlfriend, even though he admits she doesn’t care as much as he does. For some participants, physical appearance was important enough for them to educate themselves about the science of improving the body.

Some participants knew of the terms for somatotyping, in that they described their ideal body as a mesomorph.

Casey: Ideal would probably just be the, um, is it the meso? Probably, yeah, just the, you know, six foot four and probably 90 kilos look, kind of ripped, I guess.

Interviewer: So is that because of football or is it sort of just general appearance as well?

Casey: Uh, because of football. (Casey, 19, footballer)

Steve: Um, very important, um, my ideal body shape would be heavily muscled, bodybuilder shape. I guess mesomorph would be the body type, um, but with a great deal of muscularity.

Interviewer: That’s pretty important?

Steve: It is important to me, yes. Of main focus to a lot of things that I do, actually. (Steve, 30, bodybuilder)
Being educated about physiological terms such as somatotyping indicates at least some interest in the science of body improvement. Others like James talk directly about the ‘study’ he has done over the years to improve his body.

*Interviewer: So was that about the number or was it about the size?*

*James: It all correlated to me because I have studied, you know, bodybuilding for 20 odd years now and trained for so long. The numbers did correlate with what I deemed in my mind to be, you know, an optimal size. I guess I’ve always had a bit of a skewed view because I’ve always read bodybuilding magazines since I was 14. So, um, I’ve always seen basically, um, steroid induced bodies which, you know, from the beginning I used to think was attainable through natural training. Um, and it was something I always tried to achieve. But you know, I guess as I’ve gotten older and learnt more and basically become educated and realised that it’s just not possible without drugs. I’ve had to revise a lot of things, but I’ve never, I guess I’ve never really revised in my head that I couldn’t achieve what I want... what I see in the magazines. I would like to attain that look and that size and that leanness, but I guess deep down I know that’s pretty much impossible without using some sort of drugs. (James, 36, bodybuilder)*

It is clear that James’ physique is very important to him and has been over much of his life. He has not just participated in bodybuilding but also studied it. His studies have perhaps also contributed to his ongoing body goals which he realises are „skewed” and unrealistic due to the steroid induced images he sees in his studies. Part of this education or awareness has perhaps led these men to believe that body image is not a concern only for women.

*Interviewer: Do you feel being overly concerned with your body is more of a female concern, and if so why?*
James: Um... not these days. Especially, you know, because I mix with a lot of guys that are similar to me. Um, I’m probably... probably more pedantic than anyone else in that regard. But... I guess I understand what you’re saying because it’s always the perception that women, um... are more focussed on how they look and whether their bum looks big in something and whatever else. Um, it’s not as widely known that men feel probably the same or worse than women most of the time but... um, yeah, I guess from some of the feedback I get from comments I get or make about how I look and myself, yeah... the perception from the wider community in particular men mean that, yeah, it’s probably more a women’s way of feeling things and talking about things about their body. But for... yeah. (James, 36, bodybuilder)

James talks about the fact that he might be more “pedantic” than other men, but that though society may not see the body image concerns of men, they might actually be worse than for women. You get a sense that this might feel like a hidden problem for James, as suggested in the previous section on Masculinity.

The body focus talked about so far in this sub-theme is not just referring to these men’s own bodies. Several talked about how they judge and evaluate the bodies of the men around them, in the gym, on the street and amongst their social circles. This suggests that part of the evaluation of other men’s bodies is to make comments or compliment their physiques.

Interviewer: Do you talk about it with your mates?

Greg: Yeah, we definitely talk about how we’d like to look and what we are going to work on, that’s a very big part of it. Guys are always talking about, um, what they can do to work out to get their body the way they want it. Quite often we’ll look at guys and go „Wow, he’s got a great physique”. I’ve found that that’s very common as well. Maybe 30 or 40 years ago people would go „You’re being a poof”. I often talk to guys and go „Excuse me, mate, you’ve got a good physique”. If I see a guy who’s got a good physique, I’ll say „Excuse me, mate,
you’ve got a good physique, what have you been doing?” and that sort of thing.

(Greg, 22, control)

Greg talks about some norm in his male group of friends, where they are body focussed and admire other men’s bodies and the work that has gone into achieving them even to the point of complimenting strangers, despite the possibility of being seen as a 'poof'. So this body focus is not just part of the individual but can also perhaps be part of norms set for groups of men.

While not suggesting that any of these men are obsessed about their bodies, it is worth noting that one of the major characteristics used to diagnose the body image disorder Muscle Dysmorphia is a preoccupation with one’s body not being sufficiently lean and muscular (Olivardia, 2001). While this is not a clinical sample and no-one is being diagnosed, the participants talk of sub-clinical body image concerns. Pope et al. (2000) in The Adonis Complex list ‘clues’ to Muscle Dysmorphia, including ‘frequently compare your muscularity with that of other men around you’, and seeing a man who is more muscular and ‘do think about or feel envious about it for some time afterward?’ There is some similarity between these ‘clues’ and what participants, such as Greg, mentioned about evaluating and perhaps envying other men’s bodies.

Coming back to Cash’s (2008) ‘ten taxing appearance assumptions’ that fed into people’s core beliefs about their appearance and its importance, several may apply to the notion of Body Focus, including ‘Physically attractive people have it all’, ‘My worth as a person depends on how I look’, ‘I should always do whatever I can to look my best’, ‘By managing my physical appearance, I can control my social and emotional life’, ‘My appearance is responsible for much of what has happened to me in my life’ and ‘If I could look just as I wish, my life would be much happier’. All of these assumptions could feed into beliefs that perpetuate a focus and preoccupation on one’s body, other men’s bodies and motivate research on the science of body improvement. As mentioned earlier, this type of belief system means that having a focus on body can be considered an internal contributor to body image.
8.2.2 External Contributors to Body Image

The theme of External Contributors to Body Image consists of environmental influences on poor body image from media, to other men’s bodies and other people’s comments and perceived valuing of the male body. One of the more researched and acknowledged of environmental influences on body image is the media. Pressure to adhere to or even compete with media images of the ideal male body is something a number of interviewed participants talked about.

Interviewer: Do you feel being overly concerned with your body is a more female concern and if so, why?

Steve: Do I feel that the female population is concerned more about physical appearance?

Interviewer: Well, is being concerned with your body more of a female issue than a male issue, and if so why?

Steve: Uh, no, I don’t. I think that perhaps in the past it may have been. But I think more recently, um, media, the media seems to show what would be considered the desirable male form to be a muscular one. So, in print media and, well, in virtually everything from movies to TV to everything else. So I think as that sort of trend increases, so does the trend of guys that feel they need to conform to that, you know, that standard, I guess. In the belief that that is what is desirable. (Steve, 30, bodybuilder)

While Steve is referring to men in general, it is certainly possible that he himself is also experiencing the pressures to conform to the media spruiked male body ideal. He sees a range of media sources as having an increasing effect on the male population’s potential body dissatisfaction, and later refers to the personal effect media and other sources have on disturbing his contentment with the physique he had achieved.
Interviewer: How competitive do you feel about the appearance of your body as compared to other men, including those men you know and those you may see in the street?

Steve: I feel that I’ve achieved a great deal with my training, and I think that is, I think that for me, for my mind a very positive thing, which is good. But at the same time I will see other men and I will think there’s more I can do, there’s more I want to do and there’s more that I can achieve. So while I’m sort of always thinking, you know, I’ve done a good job, and I do try to remind myself of where I’ve come from and where I am currently in terms of the size I was when I started training to what I have achieved. Because that is a positive thing to obviously reaffirm that you’re actually achieving your goals. But then I will look at other people, media images or people that I know, and think, well, yes, I want to achieve that. So I still have a target in mind that is above and beyond what I already have achieved. (Steve, 30, bodybuilder)

Amongst the sources of body image discontent are the bodies of the men around Steve. The way men view other men’s bodies also arose as another basis on which men could develop body dissatisfaction that was external to them. Viewing and evaluating other men’s bodies and the physiques they had achieved became a motivation aspiring them to go further with their own physiques.

Interviewer: When you and your mates talk about it, rather than saying, god, I hate that I’m skinny or I hate that my arms are flabby, it’s more about what you’d rather be than what you are?

Greg: Yeah, definitely yeah. I suppose there is a view that we can change it. Because I suppose if there was a feeling that we can’t change it, we don’t have the opportunity to change, then it’d be more like the girls. Like what we can’t have and what we do have. It’s always to look and say ,’Wow, that’s great, I’d like to be like that’. You’re a bit more pragmatic and look at what we can do to achieve that.
Interviewer: I guess the inference is that, "I’d rather be like that," which is inferring that, "I don’t like the way I am." You maybe don’t talk about it that way.

Greg: Maybe there’s potential to have that nice ideal body and we’ve been taught that. All you have to do is do the right thing and you can look good.
(Greg, 22, control)

What Greg appears to be saying is that seeing other male bodies that are admirable does elicit some envy in him, although instead of it perhaps being something that he would complain about, it inspires him to do the work to try and achieve that physique. The point Greg might be making is that unlike women, in his opinion, men can do something about improving their bodies to resemble their ideal physique. This can be seen as inspiration to achieve a healthy physique, but it could also provide ongoing motivation to maintain unhealthy body image attitudes and practices.

The unintended influence of other people arose from the interviews in another way too. For those participants who were heterosexual, the issue of what women found desirable in a male physique was discussed. Greg even goes as far as saying it’s expected.

Greg: Yeah, definitely, I mean, it doesn’t have to be big huge muscles but just at least a little bit of lean muscle, it’s part of what’s expected obviously as well.

Interviewer: What do you mean?

Greg: Ah, you know, girls like a bit of lean muscle. My girlfriend doesn’t go goo goo goo gah gah over it or anything. But you sort of talk to a chick and they sort of touch you and say, "oooh," it’s a nice feeling, they seem to quite like it. (Greg, 22, control)

While Greg says that his girlfriend doesn’t make a big fuss of his muscles, he still believes it is what is expected of men by women. Whether it is the media, the
influences of other men, or even women, the notion of the ideal male body is one that, as we have seen in earlier discussed themes, is very important to some of these men.

Much research has gone into exploring the relationship between media images of so-called ideal bodies and body image in both men and women. Pope et al. (2000) spent quite some time describing the various influences on male body image coming from the media. They talk about how the muscularity of male action heroes in movies has increased over the decades, comparing John Wayne with Arnold Schwarzenegger, and how kids who fantasise about growing up to emulate their heroes just physically can’t do so. They also talk about how models in advertising have continued to become leaner and more muscular. They even provide a guide on how to tell if a man in an image has likely used steroids by explaining the physical limits of the size a man’s chest and shoulders can achieve. They say that these ‘super male’ images are undermining men’s and in particular boys’ self-esteem.

Research has investigated the impact media has on body image. Several studies have shown that people of both genders can experience body dissatisfaction, lower Body Esteem, and disordered eating behaviour after being exposed to same-gender images of ideal physiques, and an increased resolve to attain more muscles (Grogan, Williams & Connor, 1996; Morry & Staska, 2001; Vartanian, Giant & Passino, 2001, Morrison et al., 2003). It is therefore unsurprising that several men, including bodybuilder Steve, mentioned the media as sources of idealised male body images that they compare their own bodies with.

Cash (2008) talks about the influence of what he calls cultural socialisation on the forming of body image attitudes. He says that it is part of a person’s history that leads to their beliefs about body image, and a big contributor to cultural socialisation is media images. Much like the idealised male bodies seen in the media, idealised bodies of the men seen in daily life can feed a drive to achieve that ideal body. Cash (2008) says that the pressure felt by being in the presence of people known or unknown who have idealised bodies can lead someone to avoid certain people or places so they don’t have to feel comparatively unattractive.
Pursuing an ideal physique has often been done in order to be more attractive to other people. In *The Adonis Complex* (2000), Pope and associates talk about the disparity between what men and what women see as the ideal male physique. They conducted an experiment where men and women used a computer programme to change a male figure to resemble what they think is attractive, if the participant is female; and what they think women are attracted to, if the participant is male. They found that what men think women like is about 15 to 20 pounds more muscular than what they actually like. This is nothing new – Cohn, Adler, Irwin, Millstein, Kegeles and Stone found similar results amongst adolescents in 1987. In a way, our interviewee Greg seemed to know this by realising his girlfriend did not make a fuss about his muscles, but he went on to say that women in general seem to like his muscles. The application of pressure comes from what Greg says about it being an expectation. That does sound like there is some perceived pressure from what he thinks women in general expect from men.

So within this theme the participants revealed that they were aware of contributors to body image that existed external to them. They may have been interpreting the pressure to conform to an idealised male body shape, but the cues for this pressure came from the media, from other men’s bodies in the participants’ environment and from what they perceived women want. A common denominator here is the notion of the ideal male body, and a sub-theme was derived from the data called The Ideal Body.

### 8.2.2.1 The Ideal Body

It may be that the pressure to conform to some male ideal body shape comes from within a man, but what it is that tells them what the ideal is can come from many sources external to him, as was discussed in the previous theme. What it is that comprises the ideal male physique, according to this group of participants, was discernable from the many comments made by all these men about what their desired body is and is not. One thing was very clear: the ideal male physique is muscular. All participants, irrespective of their current level of muscularity, said they wished to be more muscular, including control Rick, footballer Tommy and bodybuilder Steve.
Interviewer: What would you want to change about your body?

Rick: Perhaps at the moment just trim down my stomach a bit, put a bit of weight on and get a bit more strength in my upper body, get more muscle mass. (Rick, 24, control)

Interviewer: What would you want to change about your body, and are muscles important?

Tommy: Uh, well, yeah, muscles are very important. Um, always want to put more weight on, yeah, muscle-wise but... yeah, obviously want to keep body fat down. (Tommy, 19, footballer)

Interviewer: What would you want to change about your body, and are muscles important?

Steve: Well, absolutely, muscle’s important. Um, I would want to change my size, I’d like to be larger and I would like to be leaner.

Interviewer: So a combination of the two?

Steve: Predominantly I think, of the two, I would probably still go for size over body fat composition.

Interviewer: Right, so that’s a bit more important?

Steve: Yeah, I think so. I mean, both are important, but I think at the end of the day, my focus would be on size and then secondary I would look at body fat. (Steve, 30, bodybuilder)

Most of the participants also mentioned that they desired to have less body fat or to be leaner. We can also surmise from this group of men that the ideal male body is also lean, or consisting of very little body fat. Again, this desirable body trait was
common across the three participant categories and is typified by footballer Tommy, control Danny and bodybuilder James.

*Interviewer:* How satisfied are you with your body at present?

*Tommy:* Um, yeah, pretty happy, actually. Yeah, um, could obviously get the skin-folds down.

*Interviewer:* Yeah, the body fat?

*Tommy:* Yeah, but, um, apart from that, pretty happy. (Tommy, 19, footballer)

*Interviewer:* What would you want to change about your body?

*Danny:* I would want to reduce the amount of body fat, the weight part doesn’t really worry me. Because I would like to also build muscle mass, but I kind of really want to reduce the fat.

*Interviewer:* Is the fat aspect a bit more important than the muscle aspect?

*Danny:* Eventually, ultimately, yeah, reduce the fat, um, not completely, just a little more, and bulk up muscle mass a little bit to be reasonably buff. (Danny, 18, control)

*Interviewer:* What would you want to change about your body, and are muscles important?

*James:* Um, I’d liked to optimally have a lot less body fat. Actually a lot more muscle bulk. Um, generally that’s probably it in a nutshell, I guess. Um, just to be leaner and meaner. Stronger is always good. Um, I don’t know, how deeply do you want me to go into it? You know, obviously I’ve got flaws in my body that I’d ideally like not to be there. You know, various things like varicose veins and arthritis and conditions that, um, I’d prefer not to have if I could change them...
Interviewer: Part of it’s function and part of it’s sort of appearance, in a way, by the sounds of it.

James: Yeah, exactly. (James, 36, bodybuilder)

You can see from these excerpts that having a leaner body seems as important as increasing muscle, even more important for some. Considering almost all of the men wished to have more muscle and less body fat irrespective of their current muscle and fat body compositions, it suggests that a lean and muscular male physique is the ideal for this group.

Reviewing the data from all these interviews it was noticeable that certain body parts were mentioned as being of particular importance to the ideal male body. The first area many preferred to improve was the upper body, including the arms and chest. Specifically, they mentioned wishing to build bigger and more muscular upper bodies.

Interviewer: Yeah, is muscle important to what you want to have with your body?

Rick: I don’t want to be bodybuilder kind of big but I like, I generally like a fairly toned upper body. I like, you know, having the strength that goes along with having the, having all these kinds of new strengths. Generally being able to lift heavy stuff and move things. (Rick, 24, control)

Rick talks about the need to work on his upper body amongst other things, from a position of wanting to gain more strength and to increase muscle mass or size. Though he also admits that there is a limit as he doesn’t want to be „bodybuilder kind of big”; he is motivated by thinking of the improvements in his body functioning with more upper body strength. Body functioning will be mentioned later in this study.

Interviewer: So that’s about the size and the shape of your arms?
Tim: Yeah. Probably that’s my, um... and that’s why I focus... I’ve only just started training legs for the first time in ages because legs were not important, you can’t really see them. And so I only focus on my upper body and my strength but, um, like your arms have always been a thing and probably a thing I’d got commented most on. And so, yeah, that was probably the one thing that I was really focussed on. That makes me feel, I don’t know, masculine, I don’t know... yeah, it does, I suppose it does. (Tim, 21, bodybuilder)

Tim, when mentioning the upper body, specifically focusses on his arms. He talks about several reasons for this. Some are functional with regard to self-defence and others are body form related like looking imposing or attracting compliments. Whatever the reasons Tim focusses on the size of his arms, it is clear that it is important to him.

The focus on the upper body was related to building muscle, but the other body area often mentioned had more to do with becoming leaner, the abdominal area. Something that was as commonly mentioned as the upper body was the stomach area, with most participants wishing for a trimmer abdomen with muscle definition or a ‘six-pack’. This was best articulated by control group member Greg.

Interviewer: When you mentioned before about abs, „you feel cleaner” when you’ve got abs, what does that mean?

Greg: I don’t know, it’s sort of like a psychological type of cleanliness. Like I’ve actually heard other guys say it as well. Even if you don’t do weights or whatever, if you just do sit-ups, just basic stuff, with sit-ups you always get up and feel clean.

Interviewer: Is it maybe that you think fat is dirty?

Greg: Yeah, it could be that. Even having that feeling of tightness in the stomach, you feel kind of stronger, you feel like everything, like you’re in control, sort of thing. (Greg, 22, control)
Greg talks of the combination of leanness and muscle tone he desires in his abdominal region and what effect that has on him psychologically. The term "clean" could have been investigated further in the interview, but he concludes that it means he feels in control of "everything".

It is unsurprising that in this study the ideal body is described as leaner and more muscular considering the body of evidence cited in the Adonis Complex (Pope et al., 2000) which describes the same male ideal. Here much discussion surrounds the topics of men’s fear of fat, and the upper body obsession of weight trainers and steroid users. The male desire for bigger muscles has also been established by other research (Connan, 1998; Pope et al., 1997; Loosemore et al., 1989). The specific focus on upper body for these men has also had a precedence in the research literature, where men were specifically worried about the size of the muscles in their upper body (Tantleff-Dunn, 2001; Tantleff-Dunn & Thompson, 2000).

While not suggesting that any of the men interviewed are experiencing a body image disorder, it is worth noting that Muscle Dysmorphia, which was a significant variable in the quantitative studies in this thesis, is characterised by a preoccupation with one’s body not being sufficiently lean and muscular. This study is in no way an avenue to diagnose these men, but it is noteworthy that almost all the men interviewed in this non-clinical sample wished to be leaner and more muscular. The prevalence of sub-clinical Muscle Dysmorphia in a general population of men might be a good focus of future research.

8.3 The Consequences of Poor Body Image

8.3.1 Emotional and Cognitive Consequences of Poor Body Image

So far the themes have explored the various factors that might contribute to body image both from within the men and external to them. Now the focus turns to the impacts or consequences of poor body image. The first theme to look at these consequences illuminates the thoughts and emotions that derive from body dissatisfaction. As mentioned above, diagnosis with body image disorders is not the aim
of this study, but to examine the context in which body image sits in a non-clinical sample. After reviewing the nine interviews, the most talked about emotional and cognitive consequence of poor body image was being body self-conscious.

*Interviewer: Now when you say “comfortable”, what do you mean?*

*Danny: Comfortable in regards to being able to carry out things that you carry out from day-to-day, and sort of go out and be comfortable without feeling crammed or feeling short of breath or anything like that. Um, but also being able to sort of, um, go out to a beach in Speedos or something, shorts and a shirt, which I’m not able to do because I’m not confident with that. Comfort is more, so just carrying out the tasks and confident in being able to go out without feeling self-conscious in a negative way. (Danny, 18, control)*

Danny expresses the type of body consciousness people often think about in association with poor body image, that of not feeling confident to show their body in public. It is also a question in the Muscle Dysmorphia Scale used in the two quantitative studies in this thesis, and part of the diagnostic criteria for Muscle Dysmorphia (Olivardia, 2001). He also talks about how his body moves and how it feels to move, suggesting it would move more comfortably with less body fat. Steve, on the other hand, who is a muscular bodybuilder, also expresses some self-consciousness at exposing his body.

*Interviewer: How would life be different if you were able to achieve that ideal body shape?*

*Steve: I guess I could only guess at how it’d be different. I would suggest that I would probably be more confident. More confident would be one thing.*

*Interviewer: Confident about yourself or about what you could physically do?*

*Steve: Probably both, physical appearance certainly, more confident to show myself physically. Probably also less concerned about achieving the goal, so I*
guess I probably wouldn’t put as much emphasis on having to achieve the target. If I felt that I’d achieved it, I guess it would be less of a drive to obviously have to feel that I need to improve on my body. (Steve, 30, bodybuilder)

Steve is a man with a lot of muscles, but still to him he needs bigger muscles to feel more confident showing his body to people. If he achieves his ideal body he can stop emphasising the need to achieve it – it almost sounds like he would be relieved to not worry about his body anymore. Again this is reminiscent of diagnostic criteria for Muscle Dysmorphia, where there is a preoccupation with feeling insufficiently muscular despite current level of musculature. The body self-consciousness described in this element of this theme relates to another element, that of social confidence.

Interviewer: What about, um, training when you’re injured or instead of going to social outings and stuff like that, you know, behavioural stuff like that?

James: Yeah, that’s been known to happen. I guess I’m much... I guess I’m just more comfortable in the gym. I’m not comfortable socially. Um, more... I’m probably more comfortable socially than I used to be when I was younger. But I just prefer to be doing fitness things, gym things. Um, like ideally I would... I would probably prefer to do that as a social outlet, you know, training with other people or groups of people or individuals or whatever, just I enjoy that much more. More than drinking or smoking or going out. You know, it’s fine, dinner parties and all that sort of stuff. I don’t mind any of that sort of stuff...

Interviewer: Is the discomfort with the social situations appearance related or is it something else?

James: Um, it’s... I wouldn’t be surprised if it’s interrelated. I would say it probably is to a degree. It’s just part of that confidence and not having confidence in your own self. Myself it all boils down to physical rather than mental. Um, I don’t know, I just feel like I’ve got an edge if I’m physically looking the way I want to look. I’ve got the edge that I need to socialise competently and comfortably. (James, 36, bodybuilder)
Interviewer: OK, so your belief in yourself to be able to do things?

Rick: Yeah, and it’s actually confidence that I feel, um, I guess it’s like about having a more integral sense of body. It’s not like when I feel shabby or something, not shabby but not right, stuff like that. I think I retreat a bit more socially when I’m feeling like that, I mean, I’m not big and fat or anything like that.

Interviewer: Why do you think that makes you retreat socially?

Rick: Um, I guess most of the negative impressions were how the other people were looking better than me. It started with where they were more dressed up or more, more suited to the situation, how they looked.

Interviewer: Do you think they were evaluating you?

Rick: Well, I’d be evaluating myself. But I think part of it is the social confidence that other people are evaluating you or judging you or whatever. (Rick, 24, control)

Both Rick and James disclose the impact their feelings about their bodies have on their social confidence. Both agree that an improvement in the way their bodies appear will have a carryover affect to how confident they are in social situations. This issue also reflects an item in the Muscle Dysmorphia Scale from Studies One and Two which was derived from the Muscle Dysmorphia diagnosis criteria (Olivardia, 2001), namely, the avoidance of social situations due to appearance concerns. Both social confidence and body self-consciousness involve cognitions such as seeing one’s body as insufficiently lean and or muscular, and emotions such as feeling self-conscious and unconfident. The theory of Cognitive Behavioural Therapy (Beck, 1993) suggests that thoughts can trigger emotions. If thoughts are triggering emotions on body image, then intrusive thoughts can mean that body image is never far from one’s mind.
Interviewer: How do your feelings about your body impact on the way you see yourself in general?

Steve: How do my feelings, sorry, impact about?

Interviewer: Yeah, the way you feel about your body, does that impact the way you feel about yourself in total?

Steve: It’s a big part of how I look at myself and look at what I’ve achieved and whether I am achieving. I think I put, I probably put a great deal of emphasis on it, more so than probably any other goal that I have. That might not be addressing this question, but it’s probably worth noting that it’s my primary concern of anything. If I, during my day if I’m, for example, if I’m working on a project I will be thinking have I eaten enough. I will be thinking have I, well, got to make sure that I go to the gym tonight, so I’ve got to leave time for that. It will constantly be on my mind, probably above all other things. (Steve, 30, bodybuilder)

Steve provides a good example of how various thoughts related to body image can intrude during the day and potentially impede functioning in work, school or other parts of life. He explains how important his body goals are to him by disclosing how consuming the thoughts are he has about everything from his diet to his gym schedule. Both a preoccupation of thoughts and impacts on daily functioning are part of the Muscle Dysmorphia Scale and are derived from its diagnostic criteria (Olivardia, 2001).

It seems that these elements of the theme of emotional and cognitive consequences of body poor image are all representative of Muscle Dysmorphia characteristics and suggest that they can be present in sub-clinical populations, perhaps at a diminished level. In *The Adonis Complex*, Pope et al. (2000) discuss the rituals in the locker room of a large bodybuilder gym, where men in objectively good physical shape are reluctant to expose their bodies in public. This phenomenon was observed as far back as 1993 when Pope and his associates noted this in male bodybuilders during psychiatric interviews where they discovered and coined the term Reverse Anorexia.
Reverse Anorexia was the early incarnation of Muscle Dysmorphia. Amongst its characteristics was muscular men fearing they are not muscular enough and avoiding situations where they had to expose their bodies in public.

The avoidance of social situations due to worry about appearing too thin was another phenomenon Pope and associates (1993) noticed in their interviews. In addition, like body self-consciousness, impact on social life has also become one of the diagnostic characteristics of Muscle Dysmorphia (Olivardia, 2001). The basis of this diagnosis, though, is a preoccupation with feeling insufficiently lean and muscular. A part of a preoccupation would be the occurrence of intrusive thoughts. As Steve effectively described, these thoughts may not only be about appearance but can also involve concerns over diet, exercise etc.

Cash (2008) explains that triggering events or situations can invoke our body image beliefs, attitudes, judgements, interpretations and thoughts which in turn produce consequential body image emotions such as the body self-consciousness and low social confidence mentioned by participants in this theme. Intrusive thoughts as mentioned above could have various triggering events or circumstances. Within Cash’s model, as mentioned several times in this study, any of the ten basic appearance assumptions can form beliefs that provide lenses through which we see and evaluate our bodies. Our evaluation in turn propagates body image feelings. The men in this study who talk of body self-consciousness could subscribe to the appearance assumptions ‘My worth as a person depends on how I look’ or ‘The first thing that people will notice about me is what’s wrong with my appearance.’ Those who disclose appearance related low social confidence may also subscribe to the above assumptions, but also ‘My appearance is responsible for much of what happens to me in my life’ or ‘By managing my physical appearance, I can control my social and emotional life.’ The assumptions, attitudes, interpretations and thoughts of Cash’s model also produce behavioural consequences which are explored in the next theme.
8.3.2 Behavioural Consequences of Poor Body Image

Along with the emotional and cognitive consequences of poor body image are the behavioural consequences. Cognitive Behavioural Therapy theory (Beck, 1993) informs us that thoughts trigger emotions that in turn can motivate behaviours. Analysis of what the nine men talked about helped identify a range of behaviours that are consequences of poor body image. Over-exercising, exercise impacting on life balance and use of performance enhancing substance are features of this theme.

One of the most mentioned behaviours perhaps associated with poor body image was over-exercise, or excessive exercise. Some participants were aware that they had over-exercised.

Interviewer: How has your desire to improve your body affected your daily life?

Rick: Um, I guess in the long run I’ve got – when I was a bit younger, like a couple of years ago, I really went overboard in how I wanted it and that led to a little burnout. And it gave me, in the past that gave me more of a real idea of what I need to do and what I should do to get myself into the body shape I like.
(Rick, 24, control)

Rick talks of the lesson he had learned from ‘burning out’ in when he was younger, which he is suggesting will prevent him from letting exercise impact his life like that again. Rick may have been aware in hindsight of the excessiveness of his exercise, but other men were currently exercising in excess.

Interviewer: And you mentioned about, you mentioned about, you know, if you ate a chocolate bar or if you had too much to drink you’d go and have a run and try and burn it off and stuff like that.

Tim: Yeah, like, I’d run to the store to go and get the tuna, like, at school and stuff, like I got... I’d run down there. As opposed... I’d often... as opposed to
buying my tuna in bulk at the start of the week. Like, I’d be running down there every day just so I could have, like – just so I could run. (Tim, 21, bodybuilder)

Tim incorporates incidental exercise into his day in an attempt to burn more calories or to keep his body fat low. Excessive exercise could involve scheduling a lot of exercise into your day, as he mentions, or it could mean training too hard.

Interviewer: And it’s sort of similar to what you were saying about the bigger you get, the bigger you want to get, so there’s like this perpetual drive to keep going.

James: Yeah, and I’m, I, um... what am I trying to say... I guess I’m always competing against myself more than anyone else anywhere. You know, every workout is written down and every walk is written down, every time is written down, um, so that I know continually what I am out to beat. And every walk every day, where I might do five walks a week. I might do seven a week. At the moment, um, I will always be striving to beat my overall greatest time or my best time for that week as well. So there’s always a mini-competition running within my head. Which is not necessarily terribly good because I think it’s why I’ve ended up with these bad tendons because I’m always trying to improve, um, I haven’t actually enabled my body to heal from various niggling injuries. It’s just now become serious injuries. (James, 36, bodybuilder)

James identifies that his will to continually train harder and to be his own biggest competition has led to over-training injuries. Despite this recognition, he continues to work to beat his own best exercise performances. Though all these men may not be aware of their excessive exercise or be in a position to abate it, the behaviour they all described suggests that exercise is not in balance with their life.

Exercise practices out of balance with life were another behavioural pattern identified in the interview data of several participants. Tim’s disclosure of his lunchtime runs to buy his food perhaps suggests that incidental exercise may take up more of his
life than it should, but James paints a vivid picture of the impacts on life where a person’s exercise pattern intrudes too often.

**Interviewer:** How has the desire to improve your body affected your daily life?

**James:** Um... I guess in years gone by, yes, to be affected to the point to, um, piss off my other half, my partner prior to [current partner] being on the scene. And probably, you know, I’d say definitely it has had some effect on her, although less as I had been so mad keen crazy as I was back then, when I was younger, but, um, yeah, to the point where I would train every day and have to train every day. It would definitely disrupt, um, normal life and, um, yeah...

**Interviewer:** What about these days?

**James:** Um, I’m a lot more relaxed with it these days. Like, I used to train seven days a week when I was young and that was for many years. I managed to... cutting it down to six days a week was a big thing. Um, and I guess prior to the injury I was happy to do three to four sessions a week and a couple of cardio sessions a week, when I could. If I missed a session it was not the end of the world. (James, 36, bodybuilder)

Here James discloses that in the past his need to exercise every day impacted on his previous relationship. You get a sense of how all-consuming this need was: *I had been so mad keen crazy... I would train every day and have to train every day.* “Even when he discusses how these days he is more relaxed as he has reduced his training from seven to six days a week, which was a *big thing*,” but now he says he can miss a session and it is *not the end of the world*. James’ disclosure illustrates how much of a serious impact excessive exercise can have on a person’s life, when a relationship is put in jeopardy.

Another risk related behavioural consequence of poor body image mentioned by interviewees was the use of performance enhancing substances. Several discussed how they had considered the use of various substances such as growth hormones or steroids,
and what research they had done and why they had decided not to use them at this stage. Some mentioned using herbal type substitutes that mimic steroids but are legal and considered safe. One bodybuilder was very open about his use of anabolic steroids.

_Interviewer:_ What are you prepared to do in pursuit of a better body, for instance, are steroids a possibility or diet pills, laxatives etc?

_Stev_e: Yes, I would probably do anything that I thought, um, wouldn’t adversely affect me, um, to achieve my goal. Certainly steroids and those sort of things I haven’t got a problem with, I’ve used them, I would use them again in the future. But I would use them in a manner that I would feel that I was not doing harm to myself. Because I think there certainly would be a limit that I wouldn’t cross.

_Interviewer:_ What do you think your limit is or your line is?

_Stev_e: I think if I was to be informed by a doctor that I have potentially caused harm or if I continue to do a certain thing I was at risk of causing harm, I would question what I was doing. And I guess it would depend on whether or not that was reversible or if it was something that was a serious condition. Because I do take steps to have myself tested and all the rest of it. So I’m aware of what impacts the supplements are having, and I think certainly if I was told that continuing in this fashion was going to definitely cause serious harm then I would consider not doing it.

_Interviewer:_ Yeah, so you are talking with your doctor about steroid use and stuff like that?

_Stev_e: Yeah, absolutely. (Steve, 30, bodybuilder)

Steroids may be a line that people decide to cross, or not, as their misuse and side effects have had some media coverage over the years. Steve discusses how he has decided what he is and is not willing to do to realise his goal of achieving his ideal physique. He says he will try anything providing it will not cause him harm, and adds
that his doctor helps him decide what that might be. However, he has crossed a line that several others in the sample decided not to cross.

Cash (2008) explains that behaviours such as appearance ‘fixing’ (which could be a collective term for the three aspects of body image related behaviour reported here) are generated by the types of thoughts and emotions reported in the previous theme, which in turn were products of core body image beliefs or appearance assumptions. With the range and types of appearance related thoughts and feelings such as body self-consciousness and body image related low social confidence evident in these participants, it is perhaps unsurprising that interviewees also disclosed the types of ‘body fixing’ behaviours such as excessive exercising or performance enhancing substance use that Cash’s model predicts.

Looking at the reported behaviours more specifically, all of the behavioural consequences of poor body image mentioned by the participants and reported in this theme have also been discussed in The Adonis Complex (Pope et al., 2000). Compulsive or excessive exercise is something Pope reported in his 1993 paper on Reverse Anorexia in male bodybuilders and is also discussed in The Adonis Complex. The bodybuilders in his study felt compelled to exercise every day, much like Tim or James disclosed. Pope et al. go on to describe how the compulsive exercisers in the 1993 study would often risk physical self-destruction, often continuing to train despite pain and injury. James’ admission of training till he acquired a chronic elbow tendon injury is illustrative of this phenomenon being present in the current study’s sample. Pope et al’s 1993 study also found much use of anabolic steroids amongst their sample of interviews, something that was also mentioned in the present study.

Steroid use is very much a risk behaviour associated with male specific body image disorder where the desire is for bigger muscles (Connan, 1998; Pope et al., 1997; Loosemore et al., 1989). In The Adonis Complex (Pope et al., 2000) much space is dedicated to discussing the use of steroids in relation to body image, and its use by adolescent boys, gay men, its misuse, dependency and side effects including violence. The misuse was not evident in the present sample of interviewees, as Steve’s use was monitored by his doctor and others had only considered using them but never done so.
However, coupled with some of the thoughts and emotions related to poor body image drawn for the interviews, the scene is potentially set for the abuse of anabolic steroids or other performance enhancing substances such as growth hormones.

The behavioural consequences of poor body image discussed in this theme also represent diagnostic characteristics of Muscle Dysmorphia (Olivardia, 2001) and are reflected in the Muscle Dysmorphia Scale used in the quantitative studies in this thesis. For instance, participants in the Muscle Dysmorphia Scale reported how often they exercise to improve their appearance, if their appearance related activities have compromised their social relationships or their career or academic performance, and they were all asked about the use of performance enhancing substances. Once again, this theme shows us that interviewed participants were disclosing hints to the occurrence of sub-clinical Muscle Dysmorphia in this non-clinical sample group. However, it is important to emphasise that the thematic analysis did not just discover potential or actual detrimental body image related beliefs, thoughts, emotions and behaviours. For some, body image and appearance related activities such as exercise were positive, healthy and constituted protective factors against poor body image. The next two themes discuss this in further detail.

8.4 Positive Body Image

8.4.1 Body Image Protective Factors

In Study Two it was noticed that there were positive body image perceptions, particularly amongst the footballers. Thematic analysis of the interviews in Study Three also revealed expressions of positive body image and the possibility of exercise being a protective factor against poor body image. One predominant element in this theme which directly and inversely relates to the previously reported theme is the importance of exercise being in balance with life. Interestingly, the footballers and controls were most representative of those who espoused the importance of exercise-life balance.

*Interviewer: And how important is it to get to that point?*
Danny: Um, it is important to me but not, um, so important to affect other parts of life. Just for the fact of feeling comfortable and confident like I said and not really taking how other people perceive me but making me feel comfortable. So it’s moderately important. (Danny, 18, control)

Interviewer: What are you prepared to do in your pursuit of a better body? Are steroids a possibility or diet pills, laxatives etc?

Greg: Um, never, never felt the need to go on those sorts of things, on any drugs or anything like that. What I’m not prepared to do is, um, exercise when I don’t enjoy it, over a long term. I mean, there’s going to be days when you have to push yourself, where you go „I really don’t want to do this today, but it’s really good for me.” But when you come back you enjoy it because you’ve got the endorphins going and you’re feeling good. But I’m not willing to exercise when I don’t enjoy it, for the most part. I’m not willing to have any kind of routine that’s going to detract from other areas of my life, important areas like, um, work, social life, whatever. As soon as that starts happening, then I know that I’ve got to peel it back. (Greg, 22, control)

Danny talks about exercise being important in his life, but he will not practise it at the expense of other important parts of his life. Greg pretty much says the same thing and goes as far as to list the parts of his life which are bigger priories and which he will protect, including work and social life. He will not continue to perform exercise if he no longer enjoys it, implying that exercise needs to be life enhancing, not life compromising. The attitudes of both Greg and Danny seem to be counter to the underlying characteristic of Muscle Dysmorphia where men are preoccupied with not being lean or muscular enough – it seems unlikely that someone keeping work and social life as priorities over exercise would also be slave to a preoccupation with insufficient musculature.

Others talked of the beneficial effects of their exercise regime on their lives. Some said if they were in control of their exercise regime they also knew they were in
control of the rest of their lives. More important, perhaps, was the disclosure by several participants of the positive impact their exercise regime had on their mental health.

*Interview: Is it a constant fear or do you go through periods where you are stricter with yourself?*

*James: Um, I’m strict with myself when I’m training constantly, particularly with weights. That keeps me inline, keeps me in check generally. Um, yeah, basically when I move away from that, um... then, yeah, then the diet goes down the drain unfortunately. For me, the weight training is the regulator for stress levels and emotions and everything else. And if I haven’t got that, then it’s much easier for me to stray, um... stray with the diet.*

*Interviewer: So they are linked, the emotions and the diet and exercise?*

*James: Oh, completely. (James, 36, bodybuilder)*

Though James says training keeps his diet from going *down the drain*, more importantly he also uses it to regulate his stress and his emotions. The management of James’ emotional world through exercise is a strategy that several other participants mentioned. It is possible that the psycho-protective use of exercise may counter-balance the types of thoughts and emotions mentioned in previous themes that contribute to poor body image, though it would depend on which was the more salient.

Another prominent feature of this theme was the ability for some men to adjust their body image according to the life circumstances they saw themselves in. Various aspects of these can effectively impede the possibility of achieving that ideal body shape. Interviewees with healthier mind sets altered their body goal to take into consideration their new life circumstances.

*Interviewer: How do you feel compared to how you were? Back before when you were exercising hard, was body image more in your mind, or is it more in your mind now that your body’s not quite where it used to be?*
Rick: Um, it used to be more on my mind back then. You know, I’d do the exercise and feel the pain then see the results.

Interviewer: And you were getting the results?

Rick: Yep, back then.

Interviewer: And that was a good thing, looking leaner and having the abs happening?

Rick: I think also now I’m a bit looser in what I accept in my body now. I don’t know if it is an adjustment of realism or not really what I can achieve in my body, but just realistically, when I think about other aspects of my life, about what I’ve got to do, what time I have to really spend.

Interviewer: Like, it’s life balance?

Rick: Yeah. (Rick, 22, control)

Rick was a very active man at one time and had high body goals till he was diagnosed with a blood clot in his shoulder. He recognises that he over-exercised and has now revised his body goal to be more realistic in his current life circumstances. He also prefers to have more life balance than he did in the past. Another to talk of revising their body goals was bodybuilder James. His body has aged and he sees the types of chronic injuries he now develops trying to maintain earlier training routines.

Interviewer: It sounds a little... because you talked about having 100 then 110 then 120, that this body shape is not necessarily a destination for you but it’s almost a continuous journey. Seeing it’s been over a big chunk of your life as well?
James: Yeah, I would say that’s spot on. It is a continuous journey. It’s something I do revise with many goals here and there but generally... I guess I look at the 120 as maybe an ultimate goal with other goals. Like I may be cruising along and go “Oh, I want to change a bit”, and I start thinking I want to get rid of a bit of bulk and then maybe tone up a little bit more, get a bit fitter, and then I go through that phase and then push towards the bulk side again and that just keeps cropping up and cropping up. I also have found, um, which might be news to you or to most people who know anything, that my body doesn’t carry that weight very well anyway. My joints start to get sore. You start to cop more injuries as you get along. It’s something I need to get into my mind that, you know, while it would be nice to achieve that, to see what it looks like, it probably wouldn’t be that good overall for my health... and, um, my overall condition. (James, 36, bodybuilder)

The notion of protective factors against poor body image was raised in Study Two. The footballers were seen to be viewing their bodies in a more positive light than their objective anthropometric measurements indicated. It was suggested that regular sub-elite level exercise can have a beneficial effect on body image (Raglin, 1990; Tiggemann & Williamson, 2000). It is possible that this body image protective factor may have played a part in the narrative of some participants around the modification of their body image in response to changed life circumstances. Whether it is injury or life changes like a family and increased work demands, the relegation of their exercise regime to a more casual one may have helped these men have a more balanced outlook, including their body image.

Research has also established that exercise at a sub-elite level can have a positive effect on mood (Raglin, 1990; Paluska & Schwenk, 2000; Peluso & Guerra de Andrade, 2005). These mood elevating properties were also reported by James and other men in this study. Several specifically used exercise to help regulate their mood or to manage negative emotions like stress. It is also possible that these psycho-protective factors have alleviated the effects of poor body image beliefs, thoughts and emotions as expressed by several men such as James. In a sense they might regulate the ‘bad’ thoughts and feelings to prevent what might be a tendency towards Muscle Dysmorphia.
becoming a diagnosed disorder. Though the idea about the psycho-protective ability of exercise with regard to body image is not necessarily new, fitness training has been used as a treatment for body image disorders for some years (Cash & Pruzinsky, 2004). Exercise’s regulatory properties with regard to Muscle Dysmorphia affect and cognitions would warrant further investigation. More generally, when contemplating the suggestion from both the quantitative and qualitative sections of this thesis that regular sub-elite exercise can not only alleviate poor body image but might also protect against it, more research is recommended. This is especially so when looking at a range of men, from the sedentary to the casual to the serious and over-exerciser.

### 8.4.1.1 Body Function Valued Over Appearance

The interview data on the theme of body image protective factors produced a line of data pointing to a sub-theme where men talked about valuing the function of the body over its appearance, that is, thought more of what it could do, such as an improvement in strength or in sport, rather than what it looked like with regard to their body and exercise goals. This can be a counter for being preoccupied with appearing insufficiently lean or muscular, as is the main defining characteristic of Muscle Dysmorphia or even poor body image in general. All but one man interviewed mentioned something about valuing the physical functioning of their body.

The footballers obviously talked a bit about how their exercise was aimed mainly at their performance in the game, although rather than focussing on any secondary gain from the training and developing a lean muscular athletic physique, such as an increased sense of attractiveness, they remained focussed on their sport.

*Interviewer: What about some of the guys on the team? There are a few different body shapes on the team and some of them are a lot more muscular... I mean, do you look at them and say „Oh... you know... I wish I could be a bit more like that?“ or are you...?
Tommy: Yeah, I look at some of the older guys that have big mature bodies on them and definitely want to look like them. But not really to look good in front of the chicks or whatever... it’s just to actually weigh more and be stronger.

Interviewer: OK, again, is that more to do with being competitive on the football field?

Tommy: Yep. (Tommy, 19, footballer)

Tommy makes it clear that his physical conditioning training is to build a bigger stronger body for the purpose of football, not ‘to look good in front of the chicks’.

Control group member Rick also talks of sport, but in a different way. He has used sport, in this case basketball, to help him rehabilitate from a diagnosis of a blood clot in his shoulder. Basketball helped him feel physical again, and helped introduce exercise back into his life in a way that was not focussed on the exercise itself but on improving mood. This shows how exercise for Rick, who was feeling some body image issues post-diagnosis, became a psycho-protective factor.

Interviewer: What about these days, because you’re in a unique position with your health problems and your body’s not what your used to?

Rick: Um, it’s also, um, what had happened, I started getting back into, properly got back into exercise and sports. This is after my burnout stage, about a year after that. And then I was getting back to a point where I was happy with, and started to feel, sort of feel good and so forth. And it really knocked me back. And I’m just really wanting to get back into it, because like for the past month I started playing basketball again. I’d only played a handful of games, although it made me really buggered, but it really felt good to be doing that again. And I think that’s why, it’s because I’ve been able to exercise since March but it’s just so, like, trying to get started, beginning at the hard point. Like coming from up here and starting down here. And I think starting basketball again has helped me more mentally towards getting up there again. Because it affects stuff you don’t think about, because when you play you’re getting the exercise but you’re
not, you’re thinking about the game and not really about the fact that you’re exercising. (Rick, 24, control)

Despite the fact that bodybuilders, by definition, have training goals specific to building and shaping the form of their bodies, some interviewed here also saw benefit in focusing on goals more related to the function of the body. James doesn’t have sport to focus his physical training, he is not a competitive bodybuilder, instead he looks at how building his body can aid in the physical demands of everyday life and also his job.

Interviewer: Confidence in your ability to do stuff or just your confidence in you as a person?

James: Yeah, confidence in me as a person I would say. I think I still have the confidence I can do anything I need to, other than probably lifting, you know, weights and things like that, to achieve that, but things to get me through day-to-day life. I can uh... I don’t feel like training will affect me in any way. Other than I just feel more comfortable, say, in my job, I’m going out doing something that might be physically demanding or require some sort of authoritative type role or whatever.

Interviewer: Would it be fair to say that you feel like you’re a better person when you’re in better shape?

James: Yep, absolutely 100%. (James, 36, bodybuilder)

An element of this theme that was mentioned by many interviewees, and inferred by Tommy and James, was a focus on a specific type of physical functioning, the desire for physical strength. Men from all three participant groups spoke of the body function goal of their training being to become physically stronger. If a man aims for increasing his strength, then his purpose for training with weights is not solely to alter his appearance. There were various reasons given for valuing a stronger body.
Obviously improving sporting performance was a reason why the footballers desired to become stronger. Tommy tells us exactly why he wants a stronger body.

_Interviewer:_ How do you think life would be different if you were able to achieve that body shape with the bigger chest and legs?

_Tommy:_ Um, the only way it would make life different would be on the footy field, just a bit stronger. And, uh, yeah, I’ll just be a stronger player and actually beat people in the one-on-one kind of contests. That’s really the only area that would change, I suppose. (Tommy, 19, footballer)

For some, aiming to be stronger was to improve their physical functioning in everyday life or for work.

_Interviewer:_ You don’t see muscle as masculinity?

_Danny:_ Not in regards to my image of myself. It’s just more about confidence and strength also. I mean, the more muscle mass that I get, it’s just the job that I’m in, it’s fairly long days, fairly demanding days, so a little bit more strength would help me to cope with that better. You know, at the end of the day feeling really lethargic and out of energy. That’s pretty much it. (Danny, 18, control)

In Cash’s (2008) _The body image workbook_ he talks about the need to treat your body well once you have started to work on changing thoughts, behaviours and attitudes that promote poor body image. One of the suggested ways is to promote being physically competent or healthy, that is, build your relationship with your body by celebrating and improving your mastery of it. Focus on performance goals such as how fast you can walk or run over a distance or being able to swim a certain amount of laps in the pool. This not only endorses a more positive relationship with the body, but also prevents appearance from being the motivator for physical activity.

Martin and Lichtenberger echo the benefits of this form of intervention in their chapter in Cash and Pruzinsky’s (2004) book, _Body image: A handbook of theory_.

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research, and clinical practice. They say that the literature suggests that secondary appearance related gains such as reduced body fat or increased muscle tone could account for the improvements in body image from fitness focussed training. They go on to say that the research suggests that weight training results in the best improvements in body image, followed by a combination of weights and aerobic training which is superior to aerobic training alone. The hypothesis is that this could be because of the quicker and larger improvements noticed when training with weights. Particularly in the case of the footballers in this study, this could certainly be true. Participant group differences will be discussed next.

8.5 The Three Participant Groups

The interview participants for this study were three controls, three bodybuilders and three footballers chosen randomly from the participants who completed the quantitative procedures in Studies One and Two. As mentioned earlier, with such small numbers interviewed from each group, a separate analysis for each group was not prudent. However, there were some researcher-observed differences based on participant group membership.

Most observations involved the footballers. Their interviews were much shorter than those of the bodybuilders and controls. They offered short answers to most questions and did not elaborate. Generally, the answers were also comparatively quite positive about their body image. This was a little unexpected as two of the footballers, when participating in the quantitative data collection procedures, had told a different story. When having their bodies weighed and measured, they talked of a strong desire to change their bodies. One talked of the need to gain 8 kilograms in bodyweight to be able to consider moving up into the professional league, something he had struggled to do. When it came to the interview (some months later) he said he had gained some upper body size but was still several kilos too light, but that he was happy with that. Despite still needing several kilos to get to his goal weight to be competitive with the guys who play his role in the professional league, he did not express the same level of intensity over the issue as he did previously. The other footballer was very motivated to reduce his body fat and had in fact already lost several kilos of fat in only a couple of
weeks of intense training. At the time of the initial body measurements, he was already appearing as one of the leanest footballers I had seen, but still wished to lose more fat. When he was interviewed several months later he said he was generally happy with his body and not as motivated to change it as he was earlier.

This change in attitude could be due to some genuine changes in their bodies in the time between when they provided data for Studies One and Two and when they were interviewed for Study Three. It also may be due partly to a methodological difference: they were interviewed over the phone, and this may have made it more difficult for the interviewer to build trust or rapport, thus leading to some self-censure by the interviewee. The controls who were interviewed face-to-face were much more open, it seemed, but so were the bodybuilders who were also interviewed over the phone. One factor that may have influenced the footballers is the masculine culture of the sport as suggested in the discussion of Study Two. When asked whether they thought being overly concerned with the appearance of your body was more of a female’s problem, all of the footballers said yes, but all but one of the other six participants said no. This may not suggest anything, but it also might be that if the footballers think only women should complain about how their bodies look, they may think it unmanly of themselves to do the same. The other men, who did not think it was exclusively a female’s problem, may have felt more comfortable owning up to their own body issues. Alternatively, it is just as likely that the footballers enjoy the psycho-protective factors of exercise as is suggested by the last two themes, although it is curious that this protective factor is not also evident in the bodybuilders. However, as was discussed in Study Two, it could be down to the type and intensity of exercise that each group performs.

The bodybuilders had a lot of similarities in their interviews: they were the most invested in building bigger muscular bodies and had reported over-exercise, extreme dieting and/or performance enhancing substance use. The controls were a little more diverse. One was most focussed on bigger muscles and had an almost warrior-like attitude in comparing his size to other men including his friends, another was the polar opposite in that he wanted most to lose body fat and become slimmer. The third was just happy to be exercising again after a health issue and was most focussed on body
functioning and strength. None of these observations are conclusive, due to the nature of this qualitative methodology, but it gives insight for future quantitative research.

8.6 Summary and Critique

The aim of the qualitative methodology of Study Three was not to diagnose or pathologise any participants but to gain an understanding of the lived contexts in which they experience their body image. Themes were examined on their own merit by staying true to the analytical methodology and refraining from the temptation to diagnose or imply disordered body image. Having stated the cautionary disclaimer, it can then be said that cognitive, affective and behavioural characteristics of the body image disorder Muscle Dysmorphia (Olivardia, 2001) were evident in the themes arising from the analysis. This was the case both for factors contributing to poor body image and to the range of consequences of poor body image. It is quite reasonable to summarise that negative body image has been part of some of these interviewees’ lives, whether at the time of interview or previously.

It was possible to see several of Cash’s (2008) appearance assumptions as the basis for many of the contributors and consequences of poor body image described by a number of the participants. Most importantly, we saw examples of the lived context of variables from the quantitative segments of the current research: relationships were affected by compulsive exercising, work was affected by intrusive thoughts of diet and training schedules, and one man wanted exercise to free him from disguising his body with bulky clothing. We also heard about steroid use, compensatory exercise when too many calories were consumed, and one man’s need to be bigger and stronger than his friends in case he needs to ‘take them down’.

The warrior attitude described by the participant needing to be able to defend himself against his friends was part of a new variable introduced in Study Three which came out of the discussion of unexpected results from the footballers in both Studies One and Two. Masculinity seemed to play a part in both the need to adhere to a hyper-masculine and hyper-muscular ideal body and in the type of distress experienced by those who don’t measure up to the ideal, namely, Gender Role Conflict. Masculinity
was one part of the theoretical basis used to analyse the qualitative data, but the Thematic Analysis method used also allowed for new themes to be drawn from the data.

Something that emerged from the data that was not necessarily part of the initial theoretical model was the notion of body image protective factors. Some participants reported positive body image and it was suspected that factors such as exercise being in balance with life and the psycho-protective or emotional regulatory properties of exercise had a part to play in that. The qualitative analytical method helped to illuminate this concept. It also helped the researcher garner an understanding of what poor body image looks like to the men in this study and how it impacts them. However, there were still questions left over when the analysis and discussion was complete.

If there been more participants from each of the quantitative participant groups, it may have been possible to do a separate qualitative thematic analyses to get a better understanding of the lived context of body image in each group separately. This is a suggestion for future qualitative research. It is also worth further investigating the possible effect the two interview methods had on interviewee honesty and self-censorship. For instance, is a face-to-face interview more conducive to the type of trust required for men to disclose concerns which they may feel are not necessarily manly?

Other recommendations for future research were generated by the work in this third study. The results show that future research should investigate the influence of masculinity, not only on how poor body image is constructed and experienced, but also on comfort of disclosure around this issue, which has direct implications for help seeking. The results of this study would also echo the recommendations of the previous studies that more research on the body image of Australian Rules footballers would be informative. This would be particularly interesting in relation to the previous suggestion involving masculinity. Finally, further investigation on the effect sub-elite exercise has on mediating or preventing Muscle Dysmorphia in men could also bear valuable fruit. While the present study has qualitatively explored the phenomenology of the lived context of body image in these men, future research suggested in this section would also benefit from the power of quantitative enquiry.
CHAPTER 9: CONCLUSION

9.1 Overview

The present research had two main aims. The first was to determine if certain groups of men would report psychological impacts related to poor body image. The second was to identify two groups of men considered at-risk of developing poor body image: one whose physical pursuits were motivated by a need to enhance physical performance, and the other who were motivated by the need to improve their physical form. Both of these aims were informed by quantitative and qualitative data. The quantitative study was run to examine the relationship between body image measures and Psychological Distress and reveal any differences between the participant groups on those same variables. The qualitative investigation helped investigate the lived context of some of the men in this study, bringing more meaning to the results from the quantitative study.

9.2 Aim 1: The Psychology Impact of Poor Body Image

The results from Study One showed that body image, as measured via a Muscle Dysmorphia Scale designed to incorporate both behavioural and cognitive symptoms, was not related to either Body Affect as measured by the Body Esteem Scale or Psychological Distress as measured by the DASS (Lovibond & Lovibond, 1995). This suggests that those reporting obsessive type behaviours and thoughts regarding improving their bodies did not also have negative feelings about their body, nor did they feel stressed, anxious or depressed about it. In Study Two, the results showed that Body Dissatisfaction was not related to Body Affect or Psychological Distress. This suggests that, for the men in this study, desiring a physique different to the one you feel you have does not necessarily lead to negative body related feelings, nor does it necessarily trigger feelings of stress, anxiety or depression. Body Dissatisfaction was also not related to Muscle Dysmorphia, suggesting that desiring a different body does not necessarily mean that the men will obsessively think about or act to improve their body.
However, when reviewing the outcomes for the other body image measure in Study Two, Body Perception Distortion, which measured how accurately participants perceived their bodies by comparing their perceived physiques with their actual body measurements, results showed that men who saw themselves as less muscular than they actually were also expressed more negative feelings about their bodies. This suggests that muscular perception distortions do impact on men’s body related affect and that muscle is an important [??] of men’s Body Esteem. However, no further psychological impact was associated with a muscular perception distortion as it had no relationship with Psychological Distress. Interestingly, muscular body perception distortion was not related to Muscle Dysmorphia, suggesting that a body perception to do with muscles may not be part of the Muscle Dysmorphia disorder, despite being a central symptom of an earlier incarnation of a type of Muscle Dysmorphia called Reverse Anorexia (Pope et al., 1993). Additionally, when the results of only the men who perceived themselves as less muscular than they were in actuality were compared with those who did not, no significant differences were found on any of the psychological and behavioural variables (i.e. Muscle Dysmorphia, Body Esteem & Psychological Distress). This suggests that this type of perception distortion is not necessarily a part of male oriented body image.

With regard to the perception distortion of the other somatotype components, men who thought they were skinnier than they actually were did not display greater levels of Psychological Distress or Body Affect than men who did not think that. A perception distortion of thinness was also not associated with Muscle Dysmorphia, again suggesting that thinking you are skinnier than you are is not part of the Muscle Dysmorphia disorder. These results are similar to the results that found no significant relationship between muscular perception distortion and Muscle Dysmorphia. This suggests that these two components of body distortion are related, where men who think they are less muscular than they actually are also think they are skinnier than they actually are, which is an interesting notion and worth further investigation. The third somatotype component was not related to any of the psychological variables, thus for these men perceiving themselves to be fatter than they actually were had no psychological impact.
Though Body Perception Distortion was not related to the body image measure Muscle Dysmorphia, it was related to the other body image measure: Body Dissatisfaction. The men in this study were generally optimistic about their body fat, perceiving themselves as having less fat than they actually did, and this was more so for those who were satisfied with their fat. Though optimistic about their body fat, the same was not true for their muscles and skinniness. Men who thought they were skinnier than they actually were were also more dissatisfied with their perceived level of skinniness. However, those who were dissatisfied with their muscles reported more complex distortions of body perception. Men who wanted more muscles also perceived themselves to be less muscular, skinnier and less fat than they actually were. Overall, these results suggest that the men thought they were physically small even though they were not and this brought them dissatisfaction with their bodies. Again this feeds back into the Muscle Dysmorphia characteristic of a preoccupation with being insufficiently lean and muscular.

In sum, there was minimal evidence of a link between poor body image and psychological impact from the quantitative part of this study. What evidence there was, however, pointed to the importance of muscle mass. In particular, the data revealed that men in this thesis experienced Muscle Dysmorphia, and that those who were unhappy with their muscularity also had bad feelings about their bodies and perceived themselves to be smaller than they were in actuality.

The qualitative part of this thesis, Study Three, was able to draw a picture of the types of psychological impact poor body image can have on the interviewed men. Several talked about the emotional and cognitive consequences, in particular, being self-conscious about their bodies, having a lack of social confidence because of their self-perceived appearance, and experiencing intrusive thoughts about body image or body improvement. They also talked about the way poor body image impacts their behaviour, for example, compulsive or over-exercising, exercising that affected their life balance where they had to sacrifice other aspects of life to be at the gym, and the use of performance enhancing substances including steroids. All of these issues, both emotional/cognitive and behavioural, are representative of characteristics of Muscle
Dysmorphia, so it can certainly be said that both quantitatively and qualitatively some of the characteristics of Muscle Dysmorphia were evident in this sample of men.

Although men in Study Three talked about the psychological impact their body image was having on them, giving us an idea of how they experienced their bodies in their lives, as evidence it can only act as a pointer for the direction of further quantitative investigation. Thus, considering Studies One, Two and Three, there was only very weak evidence than there was a psychological impact of the body image of the men in this study, but it is a topic that warrants further examination.

9.3 AIM 2: PARTICIPANT GROUP DIFFERENCES

With regard to the bodybuilders who were selected as a group whose physical pursuit was for the purpose of developing an ideal physical form, Study One suggested that they experienced some symptoms of Muscle Dysmorphia, and despite this they felt positively about their bodies. Study Two suggested that they perceived themselves as being less fat than they actually were and that although they did not differ from the other groups on body dissatisfaction, they tended to be satisfied with their perceived muscles, fat and thinness. However, the bodybuilders also said they wished to be more muscular than the most muscular option, thus suggesting they may not be as satisfied their bodies as they first seemed. Quantitatively, therefore, it was difficult to reach a singular conclusion regarding the body satisfaction of the bodybuilders.

Summarising the quantitative results for bodybuilders: despite expressing some characteristics of Muscle Dysmorphia, they did not report any other psychological impacts – indeed, quite the opposite was found, where they reported positive feelings about their physiques and saw their body fat in an optimistic light. Furthermore, they seemed satisfied with their bodies, although future research using these methodologies would need to provide a greater upper range of somatotype photos to test how satisfied the bodybuilders really are with their overall physiques.

The qualitative investigation of the bodybuilders in Study Three was more revealing and perhaps not surprising in that they were the group seemingly most
invested in having larger muscular bodies, and were also more likely to report compulsive or over-exercising and reveal the use of performance enhancing substances. Thus, descriptively, more was illuminated about what contributes to poor body image in male bodybuilders and how this impacts their behaviours, thoughts and feelings.

The footballers were selected as representatives of men whose physical pursuits are aimed at achieving peak performance. In Study One the results suggested that they also experienced some symptoms of Muscle Dysmorphia and had negative feelings about their upper body and its strength. Study Two results were somewhat contradictory as they told us that the footballers perceived themselves as more muscular and less skinny than they actually were. As with the bodybuilders, they did not differ from the other groups with regard to body dissatisfaction, but there was a tendency for them to be satisfied with their body fat and muscle but dissatisfied with their perceived skinniness. The footballers did not wish to be larger than the most muscular photo option so their trend for muscular satisfaction was not affected by the same methodological issue as the bodybuilders. Overall, the footballers reported experiencing some symptoms of Muscle Dysmorphia and, though they optimistically saw themselves as larger than they actually were, they tended towards being dissatisfied with their skinniness, which was perhaps related to negative feelings towards their upper bodies.

Study Three supported the quantitative results found for the footballers on body optimism. They described being happy with their bodies in their interviews, despite indicating they were less than happy at the time of body measurements and data collection for Studies One and Two. Another revelation from Study Three is that, when asked, all of the footballers responded that poor body image was more of a women’s problem. This suggests they might not have been as comfortable going on record to express such feelings themselves. Additionally, their interview answers were rather brief relative to those of the bodybuilders and controls, although whether this indicated less comfort with the topic being discussed is unknown. Also arising from the interviews was another explanation for the footballers’ body image positivity which had been briefly discussed in Study Two. In particular, the notion of body image protective factors such as focussing on the function of the body instead of the body shape, and the protection of being in a team, appeared important to them.
As mentioned in the previous paragraphs, the controls did not differ from either of the other two groups on many of the quantitative variables. Qualitatively, though, Study Three revealed that those interviewed described a considerable impact of body image in their lives. Their concerns were diverse, covering muscle, body fat and strength, and touched on masculinity traits such as being able to protect ‘your woman’ or defend yourself from other men, including male friends. Dieting, dressing to disguise the body and over-training were all discussed by the controls. The data gained in Study Three could suggest they were indeed the wrong group of men to be included in a control group, or perhaps that men in general are more affected by body image than often believed.

Overall the results indicated that the two experimental groups did experience some characteristics of the body image disorder Muscle Dysmorphia. It was also evident that both groups have negative and positive aspects of their body image. Perhaps consequential to the weak findings in Aim 1 was the fact that the groups did not differ from controls on Psychological Distress. By means of group comparison it was concluded that the footballers who train for body function reasons expressed more positive body image than the bodybuilders who train to improve the form of their bodies. This could be due to the potential self-censuring influence of the masculine culture in Australian Rules football towards what can otherwise be seen as a female problem. Alternatively it could be that there are more body image protective factors influencing them, including the focus on function over form, the benefits their training had on stress management, and participation in a team.

9.4 The Overall Thesis and the Future

The overall findings of this thesis suggest that whilst some men in this study experienced some poor body image symptoms such as those characterised by the more male specific conditions of Muscle Dysmorphia and the Adonis Complex, these body image issues had no strong link to Psychological Distress. This could just mean that men don’t experience distress over their body image; however, possible methodological limitations such as sampling strength were discussed in each study that could account
for the lack of strong results. Sampling may also have played a role in the significant results often found for the variable Total Weekly Exercise because, by definition, the members of the two experimental groups were selected based on their physical pursuits. The controls, on the other hand, were selected from a population of university students, and the degree to which they exercised was random but collectively less than the two more sporting groups. There is an in-built difference between the controls and experimental groups on exercise frequency, and the results concerning Total Weekly Exercise from Studies One and Two should therefore be considered with caution.

It was also evident that men in these groups experienced positive body image too. One of the interesting discoveries was the notion of body image protective factors for these men. In the Discussion (Chapter 7) of Study Two, the impact of protective factors was suggested. In Study Three we learned that having a focus on what the body does rather than what it looks like, or ensuring and valuing life balance with exercise, or using exercise to manage stress were all ways that participants suggested helped them to prevent poor body image.

Some suggestions for future research emerged from this thesis. Firstly, samples would benefit from more uniformity, i.e. using athletic groups where all participants are at the elite level. This would possibly mean that there would be added pressure and more importance in achieving an ideal physique. Controls should be taken from a more random and representative group. Procedurally, the quantitative investigation would benefit from all participants being taken through data collection individually to prevent the temptation to self-censure. In the qualitative investigation, a procedural suggestion would be for all interviews to be conducted face-to-face to aid consistency of rapport building with the interviewer across all interviews. Finally, it would be of interest to further examine the masculine culture of bodybuilding and Australian Rules football and its relationship, whether positive or negative, with body image. Other inherent potential body image protective factors in the physical pursuits of each of these groups and possibly other sports would also be worth investigating.
REFERENCES


Thompson, J. K. Body image, bodybuilding, and cultural ideals of muscularity. 
http://www.beautyworlds.com/bodyimage.htm


APPENDIX 1: Questionnaire

Study Title: Body image and its impact in selected groups of men

Investigators: Grant O'Sullivan & Dr. Crafti

What is the purpose of this study?
Grant O’Sullivan is carrying out the study as part of the requirements of his Master Of Psychology (Health Psychology) at Swinburne University. Grant is being supervised by Dr Naomi Crafti. The researchers are interested in the body image of particular groups of men and the impact body image has on them. Your participation is very much appreciated.

What will be required of me if I agree to participate?
If you agree to participate there will be three parts to the study.
1. Measurements such as height, weight, skin folds (the pinch test), width of bicep and calf muscles and elbow and knee width will be taken to determine the composition of your body.
2. You will be asked to complete a questionnaire that addresses issues related to your body image, how you feel about particular aspects of your body and items about mood and stress. All up about 20 minutes of your time.
3. A small number of randomly selected people may be called back to undergo an informal interview regarding the sorts of body image issues covered in the questionnaire. Interviews may take up to an hour. Even if you agree to participate in parts 1 & 2 of this study, you do not have to make yourself available for part 3. Please read the page at the end of the questionnaire to volunteer to be available for part 3.

What are the potential risks?
There are few risks involved in this study. Data collection standards are designed to minimize the risk to your anonymity. If you agree to be available for possible selection for the interview section of the study, your first name and contact number will be required to call you back. Leaving your contact details does not guarantee you will be selected, as only a small number will be needed. If you leave your first name and contact number, only the above-mentioned researchers will have access to them and they will be destroyed when data collection is complete. Interviews in section 3 will be taped and transcribed on to paper at a later stage. Nothing on either the tape or transcript will be recorded to identify you. All tapes will be destroyed once transcribed. No one but the chief investigators will have access to the data collected. Any results published will refer only to group findings and individuals will not be identified.

What are the benefits?
On a personal basis, everyone will be given feedback on their body composition measurements as compared to their desired body-shape and also body composition norms of particular groups of men such as athletes. By participating you will be contributing to the body of knowledge on the body image concerns of men. You will help us understand which groups of men may be more vulnerable to concerns of body image and how it may affect their lives. This understanding will help improve treatment and educational services with respect to the specific needs of men with body image concerns.

Am I obliged to participate in the study?
No. It is important that your participation in this study be voluntary. You are under no obligation to participate if you do not wish to. You are also free to withdraw from the study at any point of the data collection session. If you agree to participate in sections 1 & 2, you are under no obligation to leave your contact details to be part of section 3. Even if you agree to be available for section 3, you may withdraw at any point. Once data collection is complete and any contact details destroyed, no identifying information will be included with questionnaires or data, thus it will not be possible to withdraw at this stage.

Who can I speak to if I have any concerns about this project?
If you have any questions or concerns about the study at any time, please do not hesitate to contact Grant O’Sullivan on 0404234942 or Dr. Crafti on 9214 5355.
SECTION 1

CATEGORY (please tick one)

STUDENT    ATHLETE    MODEL

DANCER    BODYBUILDER

AGE

EXERCISE

On average, how many days a week would you exercise to improve your physique?

_______________________________________________

On average, how many hours would you exercise on those days?

________________________________________________

BODY PERCEPTION

A. Please look carefully at the 14 pictures of men’s bodies on the next page, ignoring hairstyles, height, and skin colouring, and select the following:

1. The picture that most represents your CURRENT BODY SHAPE, and place the letter in the box below.

2. The picture that most represents the BODY SHAPE YOU DESIRE TO HAVE, and place the letter in the box below.

B. Now once again refer to the page of photos looking only at the photo labeled D. Concentrating only on musculature, please indicate below (by circling a number) how much more or less muscular than photo D you would desire to be.

1 CONSIDERABLY MORE
2 3 4 5 6 7 CONSIDERABLY LESS
Please ignore height, skin colour and hairstyles.
SECTION 2

For the following please circle a number that represents how true that statement is of you, using the key below.

A – NEVER OR ALMOST NEVER TRUE
B – SOMETIMES BUT INFREQUENTLY TRUE
C – OCCASIONALLY TRUE
D – TRUE ABOUT HALF THE TIME
E – OFTEN TRUE
F – ALWAYS OR ALMOST ALWAYS TRUE

1) I spend more than 60 minutes, in a day, worrying about any aspect of my body-shape. (not just thinking but worrying) A B C D E F

2) I am significantly distressed about the concerns I have over my body-shape. (i.e. anxious, upset, depressed) A B C D E F

3) I have a problem being in situations where all or part of my body is seen by others. (e.g. locker rooms, swimming pools, beach or situations where you have to take your clothes off) A B C D E F

4) I prefer to wear clothes that alter or disguise my body-shape or appearance. (e.g. hat, baggy clothes etc) A B C D E F

5) I spend over 60 minutes total, a day, on grooming activities to improve my appearance. A B C D E F

6) I will spend more than 60 minutes in a day, involved in physical activities for the purpose of improving my appearance. (e.g. lifting weights, sit ups, running on treadmill etc) A B C D E F

7) I tend to diet, eat special foods (e.g. high protein or low fat), or take nutritional supplements specifically for the purpose of improving my body-shape. A B C D E F

8) I have spent enough of my income on products designed to improve my body-shape or appearance to risk financial problems. (e.g. diet foods, nutritional supplements, hair products, cosmetics & cosmetic procedures, work-out equipment or gym memberships) A B C D E F

9) I am very happy with the body-shape I have achieved. A B C D E F
10) My appearance related activities have A  B  C  D  E  F
undermined my social relationships (i.e. diet, work-out & other appearance related activities compromise your relationships with other people).

11) My body-shape concerns have A  B  C  D  E  F
compromised my sex life.

12) My body-shape related concerns have A  B  C  D  E  F
compromised my job/career or academic performance (if a student). (i.e. been late, or missed work/school, worked below potential, lost opportunities for advancement.)

13) I avoid being seen by people because A  B  C  D  E  F
of my body-shape concerns. (i.e. not going to school, work, social events or out in public)

14) If drug testing and banning were A  B  C  D  E  F
not an issue, I think it’s reasonable for someone to take legal over the counter or prescription drugs to gain muscle, lose weight, or otherwise improve appearance.

15) If drug testing and banning were A  B  C  D  E  F
not an issue, I think it’s reasonable for someone to take illegal steroids, diet pills and other substances to gain muscle, lose weight, or otherwise improve appearance.

16) I like being able to look at my body-shape in the A  B  C  D  E  F
mirrors at the gym.

17) I have used extreme measures such as A  B  C  D  E  F
excessive exercising and working out even when injured to change my body-shape.

18) I have used extreme measures such as A  B  C  D  E  F
fasting or other unhealthy dieting practices, vomiting, use of laxatives or other purging methods in order to change my body-shape.
SECTION 3

Please rate your feelings for each item below by circling the appropriate number.

1 – Have strong negative feelings
2 – Have moderate negative feelings
3 – Have no feelings one way or the other
4 – Have moderate positive feelings
5 – Have strong positive feelings

1) body scent
2) appetite
3) nose
4) physical stamina
5) reflexes
6) lips
7) muscular strength
8) waist
9) energy level
10) thighs
11) ears
12) biceps
13) chin
14) body build
15) physical co-ordination
16) buttocks
17) agility
18) width of shoulders
19) arms
20) chest
21) appearance of eyes
22) cheeks/cheek bones
23) hips
24) legs
25) figure or physique
26) sex drive
27) feet
28) sex organs
29) appearance of stomach
30) health
31) sex activities
32) body hair
33) physical condition
34) face
35) weight

1…………2…………3…………4…………5
1…………2…………3…………4…………5
1…………2…………3…………4…………5
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1…………2…………3…………4…………5
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1…………2…………3…………4…………5
Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

1. I found myself getting upset by quite trivial things
2. I was aware of dryness of my mouth
3. I couldn’t seem to experience any positive feeling at all
4. I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)
5. I just couldn’t seem to get going
6. I tended to over-react to situations
7. I had a feeling of shakiness (eg, legs going to give way)
8. I found it difficult to relax
9. I found myself in situations that made me so anxious I was most relieved when they ended
10. I felt that I had nothing to look forward to
11. I found myself getting upset rather easily
12. I felt that I was using a lot of nervous energy
13. I felt sad and depressed
14. I found myself getting impatient when I was delayed in any way (eg, lifts, traffic lights, being kept waiting)
15. I had a feeling of faintness
16. I felt that I had lost interest in just about everything
17. I felt I was not worth much as a person
18. I felt that I was rather touchy
19. I perspired noticeably (eg, hands sweaty) in the absence of high temperatures or physical exertion
20. I felt scared without any good reason
21. I felt that life was not worthwhile
**Reminder of rating scale:**

0 Did not apply to me at all  
1 Applied to me to some degree, or some of the time  
2 Applied to me to a considerable degree, or a good part of time  
3 Applied to me very much, or most of the time

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>I found it hard to wind down</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>23</td>
<td>I had difficulty in swallowing</td>
<td></td>
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<tr>
<td>24</td>
<td>I couldn’t seem to get any enjoyment out of the things I did</td>
<td></td>
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<tr>
<td>25</td>
<td>I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)</td>
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<tr>
<td>26</td>
<td>I felt down-hearted and blue</td>
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<td></td>
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<tr>
<td>27</td>
<td>I found that I was very irritable</td>
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<tr>
<td>28</td>
<td>I felt I was close to panic</td>
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<tr>
<td>29</td>
<td>I found it hard to calm down after something upset me</td>
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<tr>
<td>30</td>
<td>I feared that I would be ‘thrown’ by some trivial but unfamiliar task</td>
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<tr>
<td>31</td>
<td>I was unable to become enthusiastic about anything</td>
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<tr>
<td>32</td>
<td>I found it difficult to tolerate interruptions to what I was doing</td>
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<tr>
<td>33</td>
<td>I was in a state of nervous tension</td>
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<td>34</td>
<td>I felt I was pretty worthless</td>
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<tr>
<td>35</td>
<td>I was intolerant of anything that kept me from getting on with what I was doing</td>
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<tr>
<td>36</td>
<td>I felt terrified</td>
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<tr>
<td>37</td>
<td>I could see nothing in the future to be hopeful about</td>
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<tr>
<td>38</td>
<td>I felt that life was meaningless</td>
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<td></td>
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<tr>
<td>39</td>
<td>I found myself getting agitated</td>
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<td>40</td>
<td>I was worried about situations in which I might panic and make a fool of myself</td>
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<tr>
<td>41</td>
<td>I experienced trembling (eg, in the hands)</td>
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<tr>
<td>42</td>
<td>I found it difficult to work up the initiative to do things</td>
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</table>
A small random selection of subjects will be called back at a later date to undergo informal individual interviews discussing the issues covered in the present study. If you agree to be available for this part of the study please leave your **first name only** and **contact number** below.

Name ____________________

Contact number ____________________

N.B. Leaving your name and number does not guarantee you will be called back as only a small number will be randomly selected. **All contact details will be destroyed at the end of this section of the study. Interviews will be taped. Tapes will be transcribed to paper later and then all tapes destroyed.**
APPENDIX 2: Heath-Carter Somatotype Rating Form

<table>
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<th>Component</th>
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<th>Table II</th>
<th>Table III</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
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</tr>
<tr>
<td>SUM</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Heath-Carter First Component</th>
<th>Heath-Carter Second Component</th>
<th>Heath-Carter Third Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEIGHT</td>
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<td></td>
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<tr>
<td>WEIGHT</td>
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<td></td>
</tr>
<tr>
<td>SUM</td>
<td></td>
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</tr>
</tbody>
</table>

Formula:

\( \text{Somatotype} = \frac{\text{SUM of deviations}}{8} \)
Fig. I.3. A nomograph for determining the height/cube root of weight (HWR), in Imperial and metric units.
APPENDIX 3: Heath-Carter Somatochart

Figure 1. Mean somatypes of South Australian male representation in track and field athletics.

Figure 2. Mean somatypes of South Australian male representation in sports other than athletics.

Figure 3. Mean somatypes for male bodybuilders according to weight category.