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The Shape of Things: Male Body Image Amongst South African University Students

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A research report submitted to the Faculty of Humananities, University of the Witwatersrand, Johannesburg, in fulfillment of the requirements for the degree of Master of Arts in Clinical Psychology.

Johannesburg, 2007

Abstract

This research explored trends in male body image amongst South African men aged 18 to 25 years. A questionnaire consisting of a demographic section, the Body Image Test, the Behaviours Checklist and the Eating Disorders Inventory was administered to 50 male students from the University of the Witwatersrand. Trends in body dissatisfaction, body enhancing behaviour and eating disorder symptoms were examined. Correlation analyses were used to infer relationships between these three variables.

The results showed that the sample group on average view themselves as overly muscular and have a body image ideal that is less muscular than their perceived body image. This trend is contrary to trends reported in international studies and is thought to represent the cultural effects of using a South African population that is diverse in its composition as compared to an American or European samples that are more homogenous in nature. The results also showed that there were differences in body image trends between different racial groupings, although the results did indicate that across the racial groupings there was a similar societal body image ideal that represents a global trend towards a lean, muscular male body image. The results showed that the sample did not engage in body enhancing behaviours that are considered excessive or indicative of body image dissatisfaction. This was also reflected by the results on the Eating Disorders Inventory that showed considerably lower scores on the symptom scales when compared to a clinical eating disordered population and a non-clinical female comparison group. The results also showed that the sample had lower scores on the behavioural symptom scales yet higher scores on the attitudinal symptom scales. This indicates that the sample did not display any significant eating disorder behaviours yet did display personality traits that are correlated to eating disordered behaviour.

There was no correlation between body dissatisfaction and body enhancing behaviour. There was a positive correlation between body dissatisfaction and the symptom scale of interpersonal distrust. A positive correlation also occurred between body enhancing behaviour and the symptom scales for perfection and drive for thinness. Limitations of the study and recommendations for future research are discussed.

Declaration

I declare that this research report is my own unaided work. It is submitted for the degree of Master of Arts in Clinical Psychology in the University of the Witwatersrand, Johannesburg. It has not been submitted before any other degree or examination in any other university.



Jonathan Peter Picton

20 day of March 2007

Acknowledgements

I would like to thank the following people who have been invaluable in their support and assistance throughout this entire research process:

- Ms. Helen Haynes and Mr. Malose Langa whose support and guidance as supervisors has allowed me to maintain focused during this process and has been a valued asset to this endeavor.

- The participants of my research for their cooperation and positive attitude towards the project.

- My parents whose support remains continuous and whose inspiration has truly impacted on my life more than I can ever say adequately.

- My girlfriend whose patience and love knows no bounds and whose knowledge of research helped tremendously.

- Vera, whose friendship I enjoy and whose advice has been indispensable to me.

- My Lord, Jesus, through whom all things in my life are made possible.

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Chapter 1: Introduction to the present study

The focus of this study is to gain an understanding of how young, university male students evaluate their body image using the Body Image Test, and to ascertain if due to these evaluations, they engage in behaviours that are aimed at altering or enhancing their physical appearance. Research conducted in the United States of America and Europe has highlighted that there is a trend amongst males aged sixteen to thirty years to engage in behaviors to improve their physical appearance and body image (Pope, Phillips & Olivardia, 2000). This is reportedly a result of exposure to societal ideals of approved body shape and musculature for males that are displayed in contemporary mass media (Tiggemann, 2002). It has been argued that men who have been exposed to body ideals in media have become dissatisfied with their body image and as a result are engaging in behaviors to alter their body image so that it conforms to the societal ideal (Pope, et al, 2000). Furthermore, it has been noted that these behaviours to adapt or improve their physical appearance have contributed to an increase of sub-clinical and clinical disorders that include the use of steroids, dieting and eating disordered behaviour to attain these body image ideals (Pope et al., 2000).

This is concerning as it may be a predictor that these behaviours are causing an increase of severe clinical conditions that are both harmful for the individual and expensive to treat due to lack of specialized treatment facilities. In particular there has already been much research that indicates that body image concerns are central to eating disorders that are chronic psychiatric conditions that require prolonged and expensive treatment within hospital settings (Szabo & Freeman, 2005). Evidence suggests that there has been an increase in the number of reported treatments of males presenting with eating disorders at clinics globally (Garner, 2002). A Study conducted on a South African sample of males presenting with eating disorders at Tara, The H. Morass Centre, found similar finding (Szabo & Freeman, 2005). This study also concluded that current treatment methods are not effective for male patients and display little efficacy as males presented with differing motivational antecedents to their eating behaviour than female patients (Szabo & Freeman, 2005). Treatment of eating disorders has traditionally been based on female

patients and therefore interventions are not suited for the comprehensive treatment of male patients presenting with eating disorders (Szabo & Freeman, 2005). This is concerning because the results of the research conducted in the United States of America and Europe is a reflection of an increasing global trend, then South Africa may also be poorly equipped to deal with an increase in clinical eating disorders and similar sub-clinical presentations within the male population. From the research conducted on male samples in America and Europe, it has been hypothesized that this trend is not geographically isolated but rather reflects a global trend amongst men concerning their appearance and in particular their negative evaluations of their body image. As there has been minimal focus on male body image concerns in South African males, this study seeks to examine this issue and to examine trends, if they exist, between body image concerns, body enhancing behaviors and eating disorder symptoms, using a sample of South African male university students that fall within the age range of eighteen to twenty five years, that research conducted by Pope, et al (2000), indicates as having the highest prevalence of such body image concerns internationally.

Research Questions

Primary Research Questions

1) How do these university male students assess their body image on a figure rating scale from the Body Image Test?

2) To what extent do these university male students engage in body enhancing behaviours as defined on the Behaviours Checklist?

3) To what extent do these university male students engage in behaviours or maintain attitudes that are symptomatic of eating disordered behaviour as defined by the Eating Disorders Inventory symptom scales?

Secondary Research Questions

4) Is there a positive correlation between dissatisfied body image scores obtained on the Body Image Test and scores that indicate the presence of body enhancing behaviours obtained on the Behaviours Checklist?

5) Is there a positive correlation between dissatisfied body image scores as obtained on the Body Image Test and high scores on the Eating Disorders Inventory symptom scales?

6) Is there a positive correlation between scores that indicate the presence of body enhancing behaviours obtained on the Behaviours Checklist and high scores on the Eating Disorders Inventory symptom scales?

Research Rationale

It has been noted that media portrays societal ideals to millions of recipients everyday (Tiggemann, 2002). Amongst these ideals there is an emphasis on ideal body images. This has been well documented in the perceived pressure which females feel is brought about by media ideals of beauty, and what is attractive (Berel & Irving, 1998). Although there are individual differences as to the impact that this has on individuals, it has been associated with increased negative perceptions of body image as women compare themselves to the media ideals (Tiggemann, 2002).

In the same way that women have been exposed to an ideal in feminine beauty so men have more recently become targeted with images of lean muscular figures (Tiggemann, 2002). These lean muscular models far exceed the upper limits of muscularity attainable without the use of anabolic steroids and weight loss supplements (Pope, et al, 2000). This ideal image for male audiences is of the mesomorphic body: broad shoulders well developed chest, flat stomach and narrow hips (Tiggemann, 2002).

Over the last five years there has been a reported 5 – 10 % increase in admissions to hospitals of males suffering from eating disorders (Carlat, Camargo & Hertzog, 1997). This is a fairly new trend as previously eating disorders were viewed as a predominantly female disorder. While there were perceptions that males presenting with eating disorders were homosexual, research has indicated that the majority of males presenting with eating disorders were heterosexual (Carlat, et al, 1997). This indicates an increasing awareness or more cases reported of body image dissatisfactions in both homosexual and heterosexual males.

Due to the expense of treatment that is required in treating eating disorders and the serious nature of such clinical disorders, it is important to try and understand if there is a link between body image dissatisfaction, body enhancing behavior and the increases in clinical eating disorders amongst males. To ascertain if there is a correlation between these variables, it would be important to understand if South African males are

dissatisfied with their body image and if they are engaging in behaviors that are seen as risk factors in the development of eating disorders. This research proposes to explore body image dissatisfaction, body enhancing behavior and eating disorder symptoms in a non-clinical sample of South African males. The research proposes to examine if there is a link between body image dissatisfaction and behaviors that are risk factors for more maladaptive behavior, which may precipitate the development of an eating disorder. An analysis of trends of how males perceive their body image and early indications of whether such trends are associated with eating disorder symptoms in South African males may inform interventions to prevent an increase in such dysfunctional behavior. Due to the reported ineffectiveness of current treatment programmes for male patients presenting with eating disordered behaviour and associated body image disturbance (Szabo 7 Freeman, 2005), this research is vital in the process of developing intervention programmes that are tailored for male patients. Examining body image and its relations to dysfunctional behaviours is a crucial first step in developing and guiding intervention and treatment programmes for a previously neglected patient population within the field of body image disturbance and eating disordered behaviour.

Chapter 2: Literature Review

This chapter will examine some of the key concepts and Cognitive theories including Learning Theory, Cognitive Dissonance and Attribution Theory that underpin this research report. An examination and clarification of the definition of body image will form the basis of the literature review. Examining body dissatisfaction and body enhancing behaviours will further enhance the concept of body image. The interaction between these concepts will be explored using a model of Cognitive Dissonance. Lastly, the role of body image in the development of eating disorders will be examined.

2.1 Body Image

2.1.1 Body image: historical perspective

Body image is a rather complex term to define as it has been represented by a number of different constructs and theoretical understandings over time (Pruzinsky & Cash, 2002). Early notions of body image related to neurological observations and to investigations of a proposed neural mechanism that controlled changes in body posture and movement. The emphasis was on neuropathology and the consequent results in body movement and posture following traumatic injury or disease (Fisher, 1986). This understanding of body image was then expanded by Dr Schilder who shifted this concept beyond that of neuropathology by arguing for the inclusion of a neurological, psychological and socio-cultural understanding of the representation of the human body as neuropathology could only describe a limited sphere of body image related to dysfunction rather than incorporating societal and cultural understandings of body image without dysfunction (Pruzinsky & Cash, 2002).

The definition of body image was advanced further by the work of Seymour Fisher who examined “body image boundaries” from a psychodynamic perspective that allowed for research to be conducted into assigning meaning to body parts, general body awareness and distortions in body image (Krueger, 1990). These psychodynamic approaches utilized

a number of projective techniques to explore psychological attributions individuals gave to their bodies. This allowed for a psychological understanding of body image from a psychoanalytic perspective. The body in a psychoanalytic framework becomes a physical representation of more complex psychological attributions. An example is the significance of muscularity to the concept of masculinity, where actual musculature is related to power, authority and the achievement of successful masculine status. An equivalent symbolization in females is the development of breasts that symbolize nurturance, fertility and mature and successful female status. Studies have shown that damage to the physical body has direct repercussions on the individuals psychological attributions, in particular it has been noted that following surgical procedures such as mastectomy, there are severe disturbances in female identity as individuals no longer view themselves as having achieved successful femininity. The same reactions have been noted in men who have lost their physical strength due to illness or injury (White, 2000).

While this approach was still developing, a second theoretical understanding was applied to the concept of body image. This was a cognitive behavioural approach that sought to examine perceptual disturbance in body image in cognition, using information processing models to understand such distortions. (Thompson, 1990). This approach sought to explain the mental processes involved in distorting body image and in perceiving true representations of the body (Thompson, 1990). The instruments and definitions used by these two theoretical schools created definitions of body image that were diverse and at times conflictual, where identical terms could apply to two separate theoretical understandings, creating confusion in both the understanding and use of such terminology. (Pruzinsky & Cash, 2002).

This state of complexity was confounded by the focus on body image in the study of psychopathology especially eating disorders. The focus on this psychopathology led to vast amounts of academic work being developed in the field of psychopathology from a range of theoretical schools utilizing numerous different measures. The result was further duplicity of terms with multiple definitions being ascribed to individual terms within the field of body image (Thompson, 1996). Development of the concept of body image was

also skewed towards the study of female body image rather than a universal concept for males and females, as emphasis was placed on female body image and female presentations of eating disorders (Jackson, 1992). This served to further diffuse the definition and concept of body image. It also created a gender bias towards female body image concerns. Male concerns were sidelined and generally dismissed or understudied (Anderson, Cohn & Holbrook, 2000).

2.1.2 Body image: Integrative perspective

Although the conceptual development of body image has been varied, recently there has been a move away from separatist schools of thought towards an integrative approach to understanding body image (Pruzinsky & Cash, 2002). Body image as an integrated concept is defined as a combination of both affective feelings towards one's body and body functions, as well as a perception of the body and its related functions (Pruzinsky & Cash, 2002). This integrated definition allows for numerous theoretical schools to use the same terminology without confounding the term as it may include elements of cognition as well as affective attributions. This is regarded as a more useful definition of body image as it allows for the study of the concept to be conducted in a manner that allows for biological, psychological and sociological input rather than limiting the concept to a single field of study (Pruzinsky & Cash, 2002). This is in keeping with Dr Schilder's original concept of body image. It also allows for information sharing between schools of thought that previously had restricted the sharing of knowledge due to restrictive definitions that were limited to that specific school of thought (Pruzinsky & Cash, 2002). This integrated concept of body image is what will inform this research, as it allows for a broader understanding of the role of body image in South African male university students' lives, and how the behaviours that these men engage in, are related to it.

2.1.3 Body Dissatisfaction

This construct generally refers to the mental image of, and feelings towards one's body that create dissatisfaction (Garfinkel & Garner, 1982). It is defined as an internalized concept of the body that has subjective perceptions associated with it. This construct is clinically significant in eating disorders as it refers to an inability of the individual to recognize appearance as normal because assessment of the body is inaccurate and perceptions of the body are disparaging (Garfinkel & Garner, 1982).

Research suggests that males may be as prone to dissatisfaction with parts of their bodies as females (Anderson, 2001). Females are typically concerned with their bodies below the waist, whereas males are concerned with their upper bodies. These concerns reflect societal ideals that emphasize small hips, buttocks and waist in women and broad chest, muscular shoulders and flat stomach in men (Anderson, 2001). Research indicates that females pursue low body weight regardless of body shape, while males seem to accept normal body weight if their body shape is characteristic of the societal norm (Anderson, 2001). There is commonality in that both males and females, tend to fear weight gain and desire for a body weight that is 75% below a healthy ideal body weight as indicated by Body Mass Index (BMI), (Carlat, et al, 1997).

Body dissatisfaction can materialize in a pursuit of a thinner body ideal and as a fear of weight gain because of a conviction that the body is too "large", this is noted especially within female populations (Garfinkel & Garner, 1982). This drive can be ego-syntonic, so that the individual is thus rarely aware of their true physical shape, so much so, that this perception borders on delusional (Garfinkel & Garner, 1982). It has been noted that this dissatisfaction in men may be in a pursuit of a larger muscular ideal with minimal body fat than that of a thinner body ideal reported by females (Pope, Olivardia & Borowiecki, 2001). This is thought of as a reverse anorexia, where the body is seen as too small and also too "fat" instead of a traditionally female notion of a body that is both too large and too "fat" (Pope, Katz & Hudson, 1993). The key features of this type of body dissatisfaction are a drive to increase musculature and to decrease body fat percentage in

order to appear lean and muscular. (Pope, et al, 2000). There appears to be gender differences and similarities concerning body image dissatisfaction, where both males and females wish to reduce body fat, yet women wish to have a smaller body size and shape while males strive for a larger more muscular body shape.

Perceptions of the body are not only distorted regarding external appearance but also internally, as interoceptive stimuli are misinterpreted or denied (Garfinkel & Garner, 1982). The internal processes of the body are therefore also disparaged to the extent that responses to fatigue, cold, satiety, pain and emotional states are disrupted and often distorted (Garfinkel & Garner, 1982). This internal distortion is thought to be a motivating element in dysfunctional behaviour as the individual becomes oblivious to their internal homeostasis and will therefore not eat even when hungry or will exercise while injured, ignoring internal stimuli which would normally provide insight into the maintenance of internal homeostasis (Garfinkel & Garner, 1982). Body dissatisfaction thus refers to both internal and external bodily experiences, where the perception and interpretation of the body and its related functions are distorted. These distortions are associated with a propensity to engage in weight restricting and body enhancing activities to achieve desired body weight and body shape (Garfinkel & Garner, 1982).

2.1.4 Body Dissatisfaction in non-clinical male samples

Body image dissatisfaction is reportedly increasing in non- clinical male populations (Corsen & Andersen, 2002). This dissatisfaction with body image is causing males to engage in activities to enhance their body image (Corsen & Andersen, 2002). In a 1997 survey of 4000 readers of Psychology Today magazine, one-third of the 548 male respondents reported that thin or muscular magazine models make them feel insecure about their body image and wanted to lose weight as a result (Garner, 1997). This media images of muscular male physiques has occurred only fairly recently as it has been noted that from around 1990, images of men in the media started to become more muscular and leaner than previous male models (Tiggemann, 2002). In the same survey, 548 male readers responded, of these males who responded, 43% reported that they were

dissatisfied with their overall bodily appearance, 17% stated that they would trade three years of their lives to achieve their body ideals and 11% stated that they would trade five years of their lives to achieve their body ideals (Pope, et al, 2000). These figures are similar to those obtained from female respondents in a replication survey conducted six months later in the same publication (Pope, et al, 2002). Results from the first survey demonstrated that men were engaging in numerous activities to try to improve their body image (Pope, et al, 2000). These results indicated that:

- 30% of male respondents said they smoke to control their weight.
- 58% of male respondents reported having dieted to lose weight.
- 4% of male respondents reported purging to control their weight.
- 40% of male respondents reported that half of their workout time at gym was spent exercising to control their weight.

These results seem to indicate that men who are dissatisfied with their body image are engaging in behaviors to enhance their image. Some of these behaviors however may be detrimental to the individual as they may undermine physical, social and emotional health (Corsen & Andersen, 2002). This includes excessive exercise, starvation dieting and the use of anabolic steroids and other body enhancing stimulants in order to actualize these ambitions. Pope, et al, (2000) suggests that this growing trend is far more widespread than a few males obsessed with their body image, and rather is a reflection of a more widespread and generalized condition of male body image dissatisfaction that is occurring globally.

2.1.5 Body Enhancing Behavior

In the present research, the term “body enhancing behaviour” refers to a wide range of behaviours that share two common purposes: to reduce body weight and / or to develop a body shape ideal. These methods of decreasing body weight and developing body shape ideals include control of food intake, modified dietary behaviours, physical activity and the use of chemical or manufactured body supplements (Pope, et al, 2000).

Individuals may begin to diet in order to lose weight or decrease body fat and usually this constitutes a more healthy way of eating. In a nutrition-conscious society, this is often admired and encouraged (Garfinkel & Garner, 1982). Being thin is culturally endorsed in numerous westernized societies (Anderson, 2001). It has been suggested that males may begin dieting for a number of reasons, including an attempt to avoid being teased due to their weight, to improve athletic performance, to avoid medical illness and to improve sexual relations (Anderson, 2001). Many of these behaviours are seen as desirable and constitute the formation of a successful masculine identity as it is defined by society (Anderson, Cohn & Holbrook, 2000). It is noted that males may also control food intake in order to increase muscle mass while simultaneously decreasing body fat (Pope, et al, 2000).

Research indicates that bulimic behaviour (binging, self-induced vomiting after meals, laxative abuse and over exercising) occurs at a similar rate in male samples as compared with female samples (Olivardia, Pope, Mangweth & Hudson, 1995). Binging and over exercising in particular is reported as a more prominent means of weight control in male samples, while laxative use is less common (Sharp, Clark, Dunan, Blackwood & Shapiro, 1994). This is congruent with the findings in the research conducted by Olivardia, et al, (1995). It is thought that these behaviours are more socially accepted as a means of dieting, especially in the male population (Sharp, et al, 1994). These studies have been conducted with college students and eating disordered patients respectively and as such, are limited to specific populations, however the 1997 Psychology Today survey lent support to these findings concerning male eating difficulties, as a random non-clinical population sample of males reported engaging in weight control activities, with dieting and exercise as the two most frequently engaged in behaviors (Pope, et al, 2000).

Research suggests that the dominant male body ideal portrayed by the media is that of a muscular figure which is mesomorphic in shape, broad shouldered, well developed chest, flat stomach with a hip width smaller than shoulder width (Tiggemann; 2002). Pursuit of a muscular male ideal, which exceeds the upper limits of natural musculature, has led to

an increasing use of manufactured supplements and chemical stimulants such as anabolic steroids (Pope, et al, 2000). Research suggests that there is a combination of increasing muscle bulk and decreasing body fat to achieve media ideals for male body image (Pope, et al, 2000). This would suggest both the incorporation of weight control measures associated with eating disorders but also a systematic increase in body size that is contrary to eating disorder profiles and more akin to body dysmorphia (Pope, et al, 2000).

For a non-clinical male population the range of body enhancing behaviours may be a mixture of both weight reduction behaviour and behaviors aimed at achieving an ideal body shape, such as specific exercises routines to increase muscle mass. Although some of these behaviours may be healthy there are also behaviours that are related to health risks to the individual especially the use of chemical stimulants that have been linked to physical side effects such as heart, kidney, liver disease and sterility, and psychological side effects that include mood disturbances, psychotic symptoms and severe aggressiveness with impaired impulse control (Olivardia, 2001). Eating disordered behaviour is also regarded as particularly harmful in the long term as side effects closely resemble those of malnutrition and anabolic steroid use (Garner, 1997).

2.1.6 Body Image: A Learned Perception

Body image has been defined within the framework of an integrated definition that allows for a bio-psycho-social understanding of the way we perceive our bodies and their functioning (Pruzinsky & Cash, 2002). This section focuses on the influence of social understandings of the body and how these social constructs relate to internalized representations of body image ideals. Research suggests that the mass media acts as a platform to disseminate social ideals of body image through exposure of ideal body representations to the public and by associating these body ideals with positive value attributions such as happiness, success and sexual potency (Tiggemann, 2002). It has been noted that media content portrays current societal standards of socially accepted body image standards. Similarly there is an increase in products advertised to improve physical appearance in order for consumers to attain societal ideals. Body image has

become a marketable commodity that is advertised and societal body image ideals advocated to consumers (Tiggemann, 2002). Content analysis studies have demonstrated a trend towards thinness in women's magazines, film, and television programming including children's programming (Berel & Irving, 1998). Studies have shown evidence that the cultural norm for males has become increasingly muscular with a mesomorphic body shape (Tiggemann, 2002). This trend has been noted not only in media and film but also in toys aimed at male children. A study by Pope, Olivardia, Gruber and Borowiecki (1999) indicated that action figures since 1964 have increased in muscularity exponentially. This has led to the average action figure having a bicep diameter that is larger than the figures waist diameter. These proportions are only achievable with the use of anabolic steroids and even then fall within the outer range of muscularity attainable with such substance use (Pope, et al, 1999) The result of ongoing exposure to media representation of societal ideals of body shape, has lead to a learned understanding and perception of body shape and body shape ideals that are suggested to be central to the introjected perceptions of body image ideals by individuals. These introjected body images are thus acquired through learned representations that are reinforced by mass media representations of societal body ideals. These internalized body image ideals may lead to extreme behaviors and cognitive distortions that are associated with psychopathology, particularly the development of Body Dysmorphic Disorder and eating disorders (Thompson, 1996).

2.2 Cognitive Dissonance

2.2.1 A theoretical understanding of the link between body dissatisfaction and body enhancing behaviour

As discussed previously, it has been shown that body dissatisfaction stems from the internalized concept of body image and the subjective perceptions an individual has to this internalized representation (Cash, 2002). Body Dissatisfaction refers primarily to negative subjective perceptions that create psychological discomfort or anxiety (Cash, 2002). This anxiety is created due to the discrepancy between the perceived body image

as it is compared to the concept of an internalized idealized body image representation. This discrepancy and the related anxiety it creates can best be understood using the theory of Cognitive Dissonance.

Cognition refers to the mental processes that are involved in the acquisition of knowledge. These include thinking, perceiving, abstracting, synthesizing, organizing and any other mental process that allows the individual to conceptualize the nature of the external world and the nature of self (Franken, 1988). The theory of Cognitive Dissonance holds that individual's conceptualizations or representations of self and the world tend to exist in clusters that are internally consistent. (Festinger, 1957). This creates a consistency between what a person knows or believes, their expectations of the world and self and their behavior. The existence of non-fitting relations among cognitions creates anxiety as the consistency of the cognitions and associated actions is threatened by such inconsistency. These non-fitting relations and their resultant effect are referred to as Dissonance (Festinger, 1957). Festinger argues that when the individual experiences dissonance they would also experience psychological discomfort in the form of anxiety. This anxiety in turn will motivate the individual to try to reduce the dissonance in order to restore a sense of consonance, which is a state of internal cognitive consistency. Cognitive dissonance can be seen as an antecedent condition, which leads to activity orientated towards dissonance reduction (Festinger, 1957).

The process of dissonance reduction can be based within a cognitive or behavioral domain or a combination of both (Festinger; 1957). In a cognitive domain the individual may engage in a number of psychological defences in order to restructure their existing cognitions as to decrease dissonance and its associated anxiety. Behaviorally an individual may alter their behavior to conform to an internalized cognition to reduce anxiety by creating consistency between internalized cognitions and externalized behaviors (Zimbardo; 1969). Generally, there is an activation of both psychological defenses and behavioral modifications (Zimbardo; 1969). Thus it can be hypothesized that since there is evidence to suggest that media exposure creates a societal body image ideal that is introjected, this ideal may be in contrast to the body image, as it is perceived

objectively. This can be expressed as a dissonance in the cognitions concerning an individual's body image created by the inconsistency between the internalized societal ideal and their perceived self-representation. The anxiety that is created through this dissonance therefore leads to action to restore consonance as the individual seeks to conform their perceived body image to the internalized ideal body image. Research indicates that there is a trend towards a muscular male body image ideal as portrayed in media and in associated products such as children's toys (Pope, Olivardia & Borowiecki, 2001). This may form the basis of an internalized ideal body image that is in contrast to the perceived self-representation of body image, creating dissonance and therefore motivating body-enhancing behavior in order to restore consonance.

2.2.2 Value attributions and self-concept implications: maintaining dissonance

In her research on media influences in the formation of body image, Tiggemann (2002), focused on two key variables that increased the influence media has on establishing societal body ideals. The first was repetition, in which the ideal body image is duplicated in numerous mass media formats thus reinforcing a societal body ideal to the public that is introjected and learned through the process of repeated exposure (Tiggemann: 2002). The second variable was the use of cultural scripts that linked societal body ideals to desirability, happiness and status. These value attributions that are created through the association of complex cultural scripts to body image representations, become accepted personal schemas on which individuals evaluate self-worth (Tiggemann: 2002). Thus body image becomes a core basis of self-evaluation with self-worth becoming contingent on meeting societal standards as they pertain to body image. This in turn heightens the dissonance that the individual experiences when their internalized body image ideal and perceived body image are not consistent. The anxiety subsequently is also heightened as self-schemas related to self-worth are connected to these idealized representations and cultural scripts associate such discrepancy with rejection, unhappiness and personal failure. The result is an increased motivation towards reducing such anxiety and therefore the engagement of body enhancing behavior. It has been noted that ideal body representations in the media fall outside the range of attainable physical thresholds (Pope,

et al, 2000). This would indicate that dissonance would be maintained, as the represented societal body ideal remains largely unattainable. The resultant of this may be a further reinforcement of body enhancing behavior that may lead to pathological extents.

2.3 Eating Disorders

2.3.1 A Description of Eating Disorders

The first recorded medical account of an eating disorder was recorded in1689 (Alexander-Mot & Lumsden, 1994). Dr. Richard Morton described a medical condition that was referred to as “nervous consumption” which was thought to be caused by sadness and anxiety (Alexander-Mot & Lumsden, 1994). Interestingly this condition was observed in both an eighteen-year-old female and sixteen year old male patient.

In 1874, further eating disorder cases were recorded by Dr Gull, a medical practitioner in England, who described a syndrome occurring in young women (Sharp, et al, 1994). He described this syndrome as “of great emaciation, amenorrhea, constipation, anorexia, alternating occasionally with voracious appetite, restlessness and feelings of jealously, together with an absence of organic cause” (Sharp, et al, 1994). Dr Gull was the first to use the term “anorexia nervosa” to describe this syndrome to differentiate it from a diagnosis of tuberculosis (Gordon, 1990). During this same time period observations were made of patients who were preoccupied with food and overeating resulting in purging which would later be recognized as Bulimia Nervosa (Alexander-Mot & Lumsden, 1994).

Modern understandings of eating disorders have depicted these disorders as a syndrome in which a thin body size is relentlessly pursued (Garfinkel & Garner, 1982). Weight gain is feared, often at the expense of physical and psychological well being (Garfinkel & Garner, 1982). These disorders are characteristically centered on a pursuit of thinness that is often a means of obtaining mastery and control over the body (Garfinkel & Garner, 1982). This is accompanied by ongoing feelings of ineffectiveness as the pursuit of

control and perfectionism is persistently sought after and not achieved. In addition to this these disorders are characterized by progressive weight loss, significant body image distortion and amenorrhea in females (Garfinkel & Garner, 1982). A common feature of all these disorders is a pursuit of a thin body size and an attempt to gain mastery and control over the body.

Eating disorders represent chronic medical conditions that require specialized medical and psychological treatment (Corsen & Andersen, 2002). This is because these disorders result in the body weight dropping to dangerously low levels that may cause physical damage, and that these conditions are caused by psychological factors rather than organic determinants (Barlow & Durand, 1995). It has been noted that there are a number of behaviors that are highly correlated with the development of an eating disorder. These include restricting food intake, purging, and over-exercising (Olivardia, Pope, Mangweth & Hudson, 1995). Alongside these behaviors are attitudinal factors that are also positively correlated to eating disorders; these include poor body image perceptions and fear of weight gain (Garfinkel & Garner, 1982).

2.3.2 Body image and eating disorders

Body image disturbance is one of the most common clinical features found in patients with anorexia nervosa and bulimia nervosa (Garner, 2002, Stice, 2001). Most contemporary theories on eating disorders consider body dissatisfaction to be the most immediate or proximal antecedent to developing an eating disorder (Garner, 2001). The broad definition of body image disturbances refers to: internalization of the socially prescribed body image ideal, negative subjective evaluations of one's physical appearance and distorted perceptions of body shape (Stice, 2001, p.305). The importance of body image disturbances is reflected in the diagnostic criteria of anorexia nervosa in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, 1994). In the criteria it states: "*an intense fear of gaining weight or becoming fat, even though underweight*", "*disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of*

the seriousness of current low body weight" (American Psychiatric Association, 2000, p.545).

It has been noted that men do not present as frequently for treatment of eating disorders in clinical settings as male cases are frequently undiagnosed, as eating disorders are still viewed as a predominantly female disorder and therefore practitioners under diagnose such conditions in males (Freeman, 2004). Those men, who do present for treatment, do not present with the same physical criteria as female patients (Freeman, 2004). Males seem to display a much higher BMI and do not seem as concerned with weight gain but rather are concerned with body shape (Freeman, 2004). Research suggests that due to these differences, treatment strategies with male patients are not as effective as with female patients (Szabo & Freeman, 2005). The role of body image is a crucial factor in the development of these types of psychological disorders; it is therefore prudent to examine body image in a non-clinical male sample to determine if body image concerns of males may be predisposing them to engage in body enhancing behaviours that may later develop into eating disordered behaviour.

Chapter 3: Methodology

3.1 Research Aims

The primary aim of this research is to examine trends in body image, particularly body dissatisfaction, body enhancing behavior and eating disorder symptoms in a non-clinical sample of male university students between the ages of 18 to 25 years. A secondary aim of this research is assess whether correlations exist between the variables of body image dissatisfaction, body enhancing behavior and eating disorder symptoms.

3.2 Sample

This research employed a non-probability sampling technique where a non-clinical sample was taken from a current student population attending the same tertiary education institution. These participants were invited to participate on a volunteer basis. The group consisted of 50 male students from the University of the Witwatersrand between the ages of 18 to 25 years.

3.2.1 Sample demographics:

The sample demographics are as follows: All participants fell within the specified sample age range of between eighteen and twenty five years of age. The majority of the sample was nineteen years of age (Mo=19) while the mean age of the sample was 20.4 years (See Table 1, Appendix 5). Of the fifty participants in the sample, 46% were white (n=23), 42% were black (n=21), 8% were Indian (n=4) and 4% were Asian (n=2) (See Table 2, Appendix 5). Of the total sample, 46% indicated being sports club members (n=23) and 56% (n=28) indicated being gym members. Of the twenty-three sports club members, forty six percent were also gym members (n=13). Therefore there was a mixture of ten participants who were sports club members who did not belong to a gym, fifteen participants who were gym members who were not sports club members, and thirteen participants who were both sports club members and gym members concurrently. This

indicated that in total, 76% of the sample (n=38), was engage in some form of formal physical activity, while 24% (n=12), was not engaged in any formal physical activity (See Table 3, Appendix 5). None of the participants reported having been previously diagnosed with an eating disorder and as such none of the participants' results was excluded from the analysis (See Table 4, Appendix 5).

3.3 Measures and Instruments

This study was quantitative in nature and utilized a number of measures to test specific variables. The Body Image Test was used to assess levels of body dissatisfaction, the Behaviours Checklist to assess body enhancing behaviour and the Eating Disorders Inventory to assess eating disorder symptoms.

a) Demographic Information

A demographic questionnaire was used to gather information for the purpose of within-group comparisons (see Appendix 2). Participants were asked their age, race and whether they were gym or sports club members. For comparative and exclusion criteria, participants were also asked if they have ever been diagnosed with an eating disorder. A positive response to a previously diagnosed eating disorder was used as an exclusion criterion from the study as the focus was on a non-clinical sample, and it was thought that the inclusion of participants who had been diagnosed with an eating disorder may skew the results of the study thus jeopardizing the accuracy of results for a non-clinical population.

b) Self – test using images from the Body Image Test

An abbreviated form of the Body Image Test/ Somatomorphic Matrix developed by Pope, et al (2000) was used (see Appendix 2). This is a self-report questionnaire consisting of four questions that are answered by participants by choosing images from a

twelve-figure model matrix. Subjects select the figure that would correspond to their answer to each question. The four questions are:

1) Choose the image that best represents your own body.
2) Choose the image that represents the body you ideally would like to have.
3) Choose the image that represents the body of an average man your age.
4) Choose the image that represents the body most desired by society.

This assessment indicates a man's perception of his body image concerns in connection with his personal physique; his ideal physique, his perception of the average physique of his age group and the physique that portrays a societal ideal (see Appendix 2).

This measure has not been validated statistically but has displayed adequate face validity in testing on college students (Gruber, 1999). Due to the bi-axial nature of the measure it is useful in determining body shape satisfaction in males as it measures both body fat percentages which is the amount of fatty tissue in the body as represented as a percentage of the total body and muscularity as measured by a fat free mass index which indicates tissue mass excluding fatty tissue (Pope, et al, 2000). In particular the measure is useful in determining the role of muscularity and weight as factors in body shape dissatisfaction (Pope, et al, 2000). Each figure in the measure represents a body shape with a particular body fat percentage and a Fat-Free Mass Index (Pope, et al, 2000). The figures chosen by subjects allow for comparisons to be made around body fat percentage and Fat-free Mass Indices (See Appendix 2).

The test used in this research is a shortened version of the Somatomorphic Matrix, which has the same four questions but a broader range of figures to select from. The full version incorporates one hundred figures (Pope, et al, 2000). The Somatomorphic Matrix was piloted on 44 American men who were gym members. The measure displayed face validity and was successful in determining dissatisfaction with body image amongst these men. The measure was then applied to 180 college students, (Austrian students n=54, French students n=65 and American students n=81) and was determined to display face

validity on this random sample of male college students (Gruber, 1999). It was also by its nature able to differentiate if the dissatisfaction from the discrepancy in figure choices between the, perceived physiques of the subjects and their ideal physique was related to weight as represented by body fat percentages or muscle mass as represented by Fat Free Mass Index scores. The results from a series of pilot group studies conducted in the United States of America and Europe indicated dissatisfaction with current body shape and an ideal body shape that was twenty pounds more muscular with a body fat percentage of eight percent. (Pope, et al, 2000).

The fact that the pilot study was conducted on a gym going population may have skewed the results not allowing generalisability, however the measure does display face validity and has been used as a baseline for subjects who are sportsmen or gym members, allowing for comparisons with males who are not gym members or active sportsmen to ascertain their level of body dissatisfaction. This measure also does not display all male physiques but rather an average male physique; this may create some conflict for males who have a slight physique such as runners (Pope, et al, 2000).

According to the research conducted by Pope, et al (2000), in the United States of America and in Europe using the shortened version of the Somatomorphic Matrix or Body Image Test, Pope, et al (2000) concluded that considering the first three questions asked in the measure there should be only a slight discrepancy between images chosen if the test subject is satisfied with their body image. A variance of 5% body fat and 1 unit on the Fat Free Mass Index (FFMI) was allowed to represent satisfied body image. This was expanded to 10% body fat and 2 units on the FFMI to allow for cultural differences in body images between Americans and Europeans. A Difference of 15% body fat or 3 units on the FFMI is considered to be suggestive of significant body image dissatisfaction. Research conducted in America and Europe suggest that men with a discrepancy of 15% body fat or 3 units on the FFMI scored lower on measures of self-esteem, higher on measures of depression and higher on tests of eating disorder pathology than men with a discrepancy lower than 15% body fat or 3 units on the FFMI (Pope, et al, 2000).

c) Behaviors Checklist

This measure will provide an indication of the extent to which participants engage in body enhancing behaviors and will allow for such behaviors to be correlated with other variables in the research. The Behaviors Checklist is a measure consisting of fourteen items contained in the Adonis Complex Questionnaire (Pope, et al, 2000).Selected items related to activities expressly used to enhance the individual's appearance and some additional items relating specifically to eating disorders based on research in the field of male concerns with body image (Corsen & Andersen, 2002). The psychometric properties of the Adonis Complex Questionnaire have not been established however this measure does allow for information to be drawn concerning behavior and attitudes related to body image (Pope, et al, 2000). The behaviors measure will examine behavior over the last six months (see Appendix 3). Since this checklist will be used to establish the presence or absence and frequency of specific behaviors rather than as a measure of a specific theoretical construct, it was not deemed necessary to establish such features as construct or predictive validity.

The scoring of this measure will be based on the scoring principles of the Adonis Complex Questionnaire where the scores are 0 for the least engaged in behavior and advance to 3 for the most frequently engaged in behavior. After completion of the questionnaire the responses are scored and summed up. A high score indicates a higher engagement in body enhancing behavioral activity while a lower score would indicate less engagement in body enhancing behavior. The standard scores for this measure are divided into ranges with associated behaviors and body image concerns:

- 0-9 Minor concerns around body image with no affect on day-to-day activities
- 10-19 Mild to moderate body image concerns that may compromise day-to-day activities
- 20-29 Serious body image concerns with associated behaviors that affect day-to-day activities

- 30-36 Severe body image concerns that require consultation with a mental health professional and associated clinical treatment (Pope, et al, 2000).

d) Eating Disorders Inventory (EDI)

The Eating Disorders Inventory provides a precise measurement of certain psychological traits that are unique to the eating disordered population (Garner, Olmsted & Polivy in Darby, Garfinkel & Coscina, 1983). The EDI consists of 64 items that are divided into eight symptom scales as listed below (Garner, et al, 1983).

1) Drive for thinness: measures an individual's desire for weight loss and fear of weight gain.

2) Bulimia: indicates a propensity towards binging patterns and occasional purging behavior.

3) Body dissatisfaction: indicates satisfaction with body shape.

4) Ineffectiveness: this scale represents feelings of general inadequacy, insecurity, worthlessness and external locus of control. The scale also includes a negative self-evaluation.

5) Perfectionism: assesses excessive pressures to succeed and expectations for superior achievement.

6) Interpersonal distrust: represents a feeling of alienation and an unwillingness to develop close interpersonal relationships.

7) Interoceptive awareness: indicates an ability to recognize and identify bodily sensations including emotions and physical states.

8) Maturity fears: this reflects the subject's wish to remain in an adolescent state because the stress of adulthood is too overwhelming.

Items on the EDI are administered in the form of a likert-type scale, where respondents can mark the response that is most applicable to them. Response choice varies across a continuum of six alternatives from "Always" to "Never" for each item. The three most extreme eating disordered responses are scored with a three through to one, while the three least eating disordered responses per item are scored with a zero (Garner, et al, 1983). Item scores for each scale are then summated and interpreted in terms of the respective significance levels of each symptom scale score.

The EDI has been used widely clinically in the assessment of eating disorders and as such displays strong face validity (Garner, et al, 1983). The eating disordered sample upon which the significance levels are based is heterogeneous in nature, in that subjects were at different stages in treatment and represented both restrictors and bulimics (Garner, et al, 1983). The EDI displays Internal Consistency Reliability coefficients between .44 and .93 and test-retest reliability coefficients of .79 to .95 in trial testing (Garner, et al, 1983). Although the EDI has face validity and is a useful measure for determining eating disordered behavior it has been noted in previous research that certain items within the questionnaire may not be representative of male concerns, especially those items relating to body dissatisfaction (Anderson, 2001, Freeman, 2004, Szabo & Freeman, 2005). While these are recognized limitations of the measure, the EDI is widely used in the clinical context and may still be used to ascertain if the sample group displays symptom behaviors that may constitute predisposing factors to an eating disorder. The biographical section of the EDI will be removed to maintain confidentiality and anonymity in this study (See appendix 4). Results on the symptom scales will be compared to the norm scores of both a non-clinical female sample and a clinical sample of bulimic and anorexic

patients to describe gender differences. These comparisons will be cursory, as the EDI has not been standardized on a male sample and is generally used on clinical populations (See Appendix 4).

3.4 Procedure of Data Collection

Participants were invited to volunteer for the study during their lecture times. This arrangement was clarified and authorized with the lecturers concerned prior to the appeal for volunteers. Participants were asked to remain at the lecture venue after their lecture during the lunch or tea break to complete the questionnaires. This was estimated to take 15 minutes. The participants each received an introductory letter and informed consent sheet. This was read to the participants and explained the nature of the research, their rights as research participants and the instructions for the completion of questionnaires. Any queries were then addressed and questions answered. After the briefing, the participants received a questionnaire, unmarked envelope and pen with which they completed the questionnaires. Once completed the questionnaires were placed in the unmarked envelopes, sealed and then placed in a separate collection box by the participants. Participants were thanked and allowed to leave the venue. Due to the fact that the research was being conducted across faculties, testing occurred at several separate locations. This may have had some environmental effects on the participants' responses, as the environmental conditions of these differing venues could not be controlled for, especially lighting and ventilation. However, these environmental factors are estimated to have had a minimal effect on participant responses, as results were similar across venues. The administration process was identical for each venue in which the questionnaires were administered. In obtaining the sample, students were approached across faculties to prevent sample bias. The advantages of using this sample was that it was accessible for research purposes, cost effective and was to some extent racially representative of the diverse population of South Africa. The sample was also similar in composition to those used in studies in the United States of America and Europe which utilized samples of college aged male students.

3.5 Research Design

This study is a cross-sectional, non-experimental research design (Rosnow & Rosenthal, 1991). There is no use of a control group, random assignment or the manipulation of independent variables (Rosnow & Rosenthal, 1991). The design utilizes correlations in order to ascertain if relationships exist between variables measured in the study. This is the most appropriate design for this research as it aims at examining trends within a population that have been previously unexamined. These findings may serve a basis for further research regarding such variables in future studies.

3.6 Data Analysis

The most appropriate statistical procedures for this study were the use of frequency tables and correlations. Frequency tables would be used to gain an understanding of the trends that the sample displayed in the areas of body dissatisfaction, body enhancing behaviors and eating disorder symptoms. Comparing mean scores within the sample could assess these trends. Correlation was used to assess if relationships existed between the trends of body dissatisfaction, body enhancing behavior and eating disorder symptoms. Although correlations will not allow any conclusions to be drawn regarding causality they will provide indications of which variables are related, and to what extent they are related.

3.6.1 Frequency Tables

"*Frequency tables reflect categorical data where the data consists of totals or frequencies for each variable being measured*" (Howell, 1999, p9). Frequency tables allow for the production of histograms that may be used to determine distribution of data and from such distributions further statistical analysis may be made (Howell, 1999). This study utilized measures of central tendency especially comparisons of mean scores to determine trends. The mean score is defined as the sum of the scores divided by the number of scores and produces a result that reflects the average score for the data set

(Howell, 1999). As there were no set standardized scores or expected frequencies in the measures used in this study it was deemed appropriate to use an analysis of frequencies to determine trends rather than a chi square.

3.6.2 Correlation

Correlation is regarded as the extent to which one variable is related to another variable (Howell, 1999). This strength of this relationship is measured by a correlation coefficient. Although there are a number of methods to determine the correlation coefficient between variables, this research employed Pearson's product moment correlation, which is referred to as Pearson's *r* (Howell, 1999). The correlation coefficient represents the degree of linear relationship between the two variables. Relationships can either be positive or negative with a maximum value of 1 to denote a perfect linear relationship. The positive or negative symbol before the coefficient value indicates the direction of the linear relationship but not the strength of that relationship. Positive relationships indicate that increases in scores on one variable are associated with increases in scores on the other variable, whereas a negative relationship indicates that decreasing scores on one variable are related to increasing scores on the other variable (Howell, 1999). A coefficient value of zero indicates no linear relationship exists between the two variables. Correlation coefficients are tested for significance to determine that the linear relationship described is not a chance relationship. The greater the significance level of the relationship between the variables, the greater the confidence that a true linear relationship exists between these variables (Rosnow & Rosenthal, 1991).

3.7 Ethical Considerations

The following ethical considerations were adhered to throughout the research process of this study. All participants received an information sheet that outlined the nature of the study and what was required of them as participants. This was read to volunteers and any questions were addressed before participants proceeded to complete the measures. The information sheet addressed the topic of the research being conducted and the

participants' rights as volunteers in the study. These rights focused on the right of participants to disengage from the process at any point in time without reprisal, anonymity, and the right to access the data after completion of the study. While no harm to participants was envisaged the information sheet contained details of counseling services that have low cost or no cost for participants should they have felt the need for such services after completing the measures. The information sheet also outlined the process of completing the measures specifying a 15-minute completion time for the task. The information sheet also stated that the overall results of the study would be made available to students at a later date once the study was completed, but that no individual feedback would be provided. Only the researcher and research supervisor had access to the results of the participants responses to the measures utilized in this study.

Chapter 4: Presentation of Results

4.1 Body Image Test Results

Participant responses indicated the following results for the sample mean scores:

Table A

	Mean Score	Body Fat Percentage	Fat Free Mass Index
Perception of Body Image representing own body image	12	14%	22.5
Perception of Personal Ideal Body image	8	14%	16.5
Perception of Average body image of men in same age group as sample	16	20%	18.0
Perception of Societal ideal body image	9	14%	19.5

From these results there is an indication that images that were selected that represented personal perceptions of body image within the sample were on average seen as being more muscular than the personal ideal body image of the group. Although there was no difference in the body fat percentages indicating no concern regarding weight, there was a difference of 6 units on the Free Fat Mass Index (FFMI) score that would indicate that the average ideal body image is significantly less muscular than the perceived body image. The perception of the average male body image in the same age group was indicated as having four percent more body fat and a difference of 4.5 units on the FFMI. This indicates that the average body image of a man within this age group is perceived as

having more weight but is significantly less muscular. The societal ideal had no difference in weight when compared to the personal ideal yet did display significantly more muscularity with an increase of 3units on the FFMI.

4.1.2 **A comparison between racial groupings displayed differing patterns amongst racial groupings as displayed below:**

Table B

Race		**Mean Scores**	**Body Fat Percentage**	**Fat Free Mass Index**
Caucasian	Own Body Image	10	14%	19.5
	Personal Ideal	7	8%	25.5
	Average Body image	17	20%	19.5
	Societal Ideal	9	14%	18.0
Black	Own Body Image	13	14%	25.5
	Personal Ideal	9	14%	18.0
	Average Body image	13	14%	24.0
	Societal Ideal	10	14%	19.5
Indian	Own Body Image	15	20%	16.5
	Personal Ideal	9	14%	18.0
	Average Body image	24	26%	19.5
	Societal Ideal	10	14%	19.5
Asian	Own Body Image	9	14%	18.0
	Personal Ideal	10	14%	19.5
	Average Body image	12	14%	22.5
	Societal Ideal	5	8%	22.5

When results are viewed by racial groupings a number of differences occur when these groupings' mean scores are compared to the total sample mean scores (see Tables 5,6,7,8 Appendix 5)

Perception of Body image representing own body image, comparing racial groupings.

On the question of representing own body image, Caucasian participants indicated a figure that had no difference in body fat percentage from the sample mean score yet reflected a body image that was significantly less muscular with a difference of 3 units on the FFMI. Black participants also indicated a figure that had no discrepancy with body fat percentage yet indicated a significantly more muscular figure on average by 3 units on the FFMI. Indian participants indicated a figure with a higher body fat percentage, a 6% increase in body fat versus the sample mean score and indicated a significantly less muscular figure by 6 units on the FFMI. Asian participants indicated a figure that displayed no difference in body fat percentage yet displayed a significantly less muscular figure by 4.5 units on the FFMI (see Table 5, Appendix 5c).

Perception of Personal body image ideal, comparing racial groupings.

On the question of personal ideal body image representation, Caucasian participants represented a figure, which had 8% less body fat, and a significantly increased muscularity by 9 units on the FFMI as compared to the total sample mean scores for the same item. Black participants indicated a figure that had no difference in body fat percentage yet displayed an increased muscularity of 1.5 units on the FFMI. Indian participants represented a figure which displays no difference in body fat percentage yet is slightly more muscular as displayed by a difference of 1.5 units on the FFMI. Asian participants indicated a figure that displays no difference in body fat percentage yet has a significant increase in muscularity as donated by a 3-unit increase on the FFMI (see Table 6, Appendix 5).

Perception of Average body image of men in same age group, comparing racial groupings

On the question of representing average body image of men within the same age group, Caucasian participants represented a figure, which had no discrepancy in body fat percentage, and an increased muscularity by 1unit on the FFMI as compared to the total sample mean scores for the same item. Black participants indicated a figure that had 6% less body fat percentage and a significantly increased muscularity as indicated by 6 units on the FFMI. Indian participants represented a figure that displays a 6% increase in body fat percentage and an increased muscularity by 1.5 units on the FFMI. Asian participants indicated a figure that had 6% less body fat percentage and a significantly increased muscularity as indicated by a 4.5 unit increase on the FFMI (see Table 7, Appendix 5).

Perception of Societal ideal body image, comparing racial groupings.

On the question of societal ideal body image representation, Caucasian participants represented a figure that indicated no discrepancy in body fat percentage, and a reduced muscularity by 1.5 units on the FFMI as compared to the total sample mean scores for the same item. Black participants indicated a figure that was identical to the total sample mean score. Indian participants also represented a figure that was identical to the total sample mean score. Asian participants indicated a figure that indicates an 8% decrease in body fat percentage and a significant increase in muscularity as indicated by a 3-unit increase on the FFMI (see Table 8, Appendix 5).

A further analysis of differences between total sample mean scores and sub-grouping mean scores was also conducted in order to compare gym members, non gym members, sports club members and non sports club members against the total sample mean scores as represented in the table below (see Table 5,6,7,8 Appendix 5).

Table C

Sub Grouping		Mean Scores	Body Fat Percentage	Fat Free Mass Index
Gym Members	Own Body Image	13	14%	24.0
	Personal Ideal	7	8%	25.5
	Average Body image	18	20%	21.0
	Societal Ideal	9	14%	18.0
Sports Club Members	Own Body Image	9	14%	18.0
	Personal Ideal	8	14%	16.5
	Average Body image	16	20%	18.0
	Societal Ideal	10	14%	19.5

Perception of Body image representing own body image, comparing sports club and gym members.

On the question of representing own body image, participants who indicated they were gym members indicated a figure that had no difference in body fat percentage from the total sample mean score yet reflected a body image that was more muscular with a difference of 1.5 units on the FFMI. Participants who indicated they were sports club members indicated a figure that had no difference in body fat percentage from the total sample mean score yet reflected a body image that was significantly less muscular with a difference of 4.5 units on the FFMI.

Perception of Personal body image ideal, comparing sports club and gym members.

On the question of personal ideal body image representation, participants who indicated they were gym members indicated a figure that had 6% less body fat percentage from the

total sample mean score yet reflected a body image that was significantly more muscular with an increase of 9 units on the FFMI. Participants who indicated they were sports club members indicated a figure that was identical to the total sample mean score figure.

Perception of Average body image of men in same age group, comparing sports club and gym members.

On the question of representing average body image of men within the same age group, participants who stated they were gym members indicated a figure that had no discrepancy in body fat percentage from the total sample mean score yet reflected a body image that was significantly more muscular with an increase of 3 units on the FFMI. . Participants who indicated they were sports club members indicated a figure that was identical to the total sample mean score figure.

Perception of Societal ideal body image, comparing sports club and gym members.

On the question of societal ideal body image representation, participants who indicated they were gym members indicated a figure that had no discrepancy in body fat percentage from the total sample mean score and reflected a body image that was slightly less muscular with a difference of 1.5 units on the FFMI. Participants who indicated they were sports club members indicated a figure that was identical to the total sample mean score figure.

4.2 Behaviours Checklist Results

The mean scores of the Behaviours Checklist are listed below in terms of total sample, racial groupings and gym and sports club membership.

Table D

Grouping	Mean Scores
Total Sample	6.02
Caucasian Participants	5.57
Black Participants	6.24
Indian Participants	8.00
Asian Participants	5.00
Gym Members	6.18
Sports Club Members	6.74

In reviewing the mean score figures of all the groupings fell within the lowest scoring range of 0-9 on the Behaviours Checklist which indicates minor body image concerns with related activities that would not affect day –to- day activities (see Table 1, Appendix 6). In analyzing the total sample further 86% (n=43) fell within the range of 0-9. However 14% (n=7) fell within the range of 10-19 on the Behaviors Checklist that indicates mild to moderate concerns regarding body image that may result in behaviors that affect day-to-day activities (see Table 2, Appendix 6). Of these seven cases four were gym and sports club members while three cases were participants who were not members of any formal physical activity grouping. Two were Caucasian participants, four were black participants and one was an Indian participant.

Of the fourteen items on the Behaviors Checklist, two are identified in the literature as being valuable indicators of pathological behavior that may be indicative of more dysfunctional behavior and the development of clinical disorders (Pope, et al, 2000). These two items are:

7) Have you ever taken any type of drug to gain muscle, lose weight or otherwise improve your appearance? (Not including medical reasons)

11) How often have you used other dietary activities such as vomiting, use of laxatives or other purging methods to improve your appearance?

Results on these items indicated that 2% of the sample (n=1) engages in the use of over the counter drugs to improve their appearance and reported that this was done on a frequency of once to twice a month. It is worth noting that this participant was neither a gym member nor a sports club member (see Table 3, Appendix 6). On the second item of the Behaviors Checklist that requires specific attention, 8% of the sample (n=4) indicated using dietary activities such as vomiting, use of laxatives or other purging methods to improve their physical appearance (see Table 4, Appendix 6). Of these four respondents there was an equal split between vomiting and the use of laxatives. It is worth noting that of the four respondents, who answered positively for this question, two were sports club members, one was a gym member and one was a non-gym, non-sports club member.

4.3 Eating Disorders Inventory symptom scales results

Results of the mean scores for the total sample as compared to the normed mean scores of a diagnosed anorexic sample (n=129) and a non-clinical female comparison sample (n=770) is outlined below:

Table E

Symptom Scale	Anorexia Nervosa		Female Comparison		Total non-clinical male sample	
	(n=129)		(n=770)		(n=50)	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
Drive for thinness	15.2	(5.3)	5.0	(5.3)	1.18	(2.36)
Bulimia	R=2.2 B=11.2	(3.8) (5.5)	1.8	(3.1)	0.64	(1.08)
Body Dissatisfaction	R=13.8 B=17.4	(7.1) (8.0)	9.8	(7.6)	3.04	(3.26)
Ineffectiveness	13.9	(8.0)	2.1	(3.6)	2.4	(4.63)
Perfectionism	9.9	(5.1)	5.6	(4.0)	7.48	(4.31)
Interpersonal Distrust	7.4	(5.1)	2.3	(2.9)	4.3	(4.12)
Interoceptive Awareness	12.3	(7.0)	2.3	(3.5)	2.84	(3.33)
Maturity Fears	5.9	(5.4)	2.3	(2.4)	2.3	(3.08)

R= Restrictors

B= Bulimics

Due to the range of the Standard Deviations it is possible for clinical sample participants to fall within the range of non-clinical sample scores and alternatively for non-clinical participant to fall within the range of clinical participant scorings. Therefore excluding the effects of outlying high or low scores and comparing mean scores only it is worth noting that the totals for the non-clinical male sample are lower than those results obtained from the anorexic sample. Furthermore the non-clinical male sample displays totals that are lower than the non-clinical female comparison group for the following symptom scales: Drive for Thinness, Bulimia and Body Dissatisfaction. The scores for Maturity Fears are equal while the scores for the non-clinical male sample are higher on

the symptom subscales for Ineffectiveness, Perfectionism, Interpersonal Distrust and Interoceptive Awareness. The results of the symptom scales mean scores within the non-clinical male sample by racial grouping, gym and sports club membership are represented by the table below.

Table F

Symptom Scale	Caucasian	Black	Indian	Asian	Gym Members	Sports Club Members
	Mean	Mean	Mean	Mean	Mean	Mean
Drive for thinness	0.83	1.67	1.00	1.43	1.00	1.43
Bulimia	0.52	0.76	0.25	1.5	0.96	1.05
Body Dissatisfaction	2.87	3.00	4.5	2.5	3.18	3.17
Ineffectiveness	2.22	2.43	3.25	2.5	2.79	2.13
Perfectionism	5.87	9.1	9.0	6.0	6.71	7.3
Interpersonal Distrust	3.22	5.76	3.0	4.0	3.54	3.78
Interoceptive Awareness	1.39	4.05	4.50	3.50	2.04	2.61
Maturity Fears	1.09	3.76	1.25	3.0	1.57	2.13

From the table it can be seen that on average sports club members had higher symptom scores than gym members except on the symptom scale of Body Dissatisfaction. This difference between mean scores however was minimal and does not represent a significant difference. In relation to racial groupings, Black participants scored highest on the symptom scales of Drive for Thinness, Perfectionism, Interpersonal Distrust and Maturity Fears. Indian participants scored highest on the symptom scales of Body Dissatisfaction, Interoceptive Awareness and Ineffectiveness. Asian participants scored highest on the symptom scale for Bulimia. Although there are no statistically significant

differences between the scores due to the wide range of scoring obtainable in the standard deviations (see Tables 1,2,3,4,5,6,7,8 Appendix 7), there is still salient descriptive data that is obtainable through these scoring profiles.

4.4 Results of Correlations

The relationship between body dissatisfaction and body enhancing behavior.

Pearson's *r* was used to calculate the correlation between body dissatisfaction measured by the Body Image Test and body enhancing behavior as measured on the Behaviors Checklist.

Table G: Results of Pearson correlation coefficients for body dissatisfaction and body enhancing behavior

	Body enhancing behavior (Behaviors Checklist)
Body dissatisfaction (Body Image Test)	-0.1671

$p < 0.05$

No significant correlation was found between scores on the Body Image Test and body-enhancing behaviour as measured by the Behaviours Checklist.This implies that there is no linear relationship between these two variables within the sample.

The relationship between body dissatisfaction and eating disorder symptoms.

Pearson's *r* was used to calculate the correlation between body dissatisfaction measured on the Body Image Test and eating disorder symptoms measured on the symptom scales of the Eating Disorders Inventory (EDI).

Table H: Results of Pearson correlation coefficients for body dissatisfaction and eating disorder symptoms

	Drive for Thinness	**Bulimia**	**Body Dissatisfaction**	**Ineffectiveness**	**Perfectionism**	**Interpersonal Distrust**	**Interoceptive Awareness**	**Maturity Fears**
Body dissatisfaction (Body Image Test)	-0.2471	-0.1816	0.0149	0.2041	0.1007	0.551*	0.0036	0.0402

$p < 0.05$

The results indicated that scores on the Body Image Test were significantly correlated with the eating disorder symptom of interpersonal distrust at the 5% level of significance. This implies that higher scores on the Body Image Test that indicates body dissatisfaction are associated with higher scores on the symptom scales of the EDI for drive for interpersonal distrust.

The relationship between body enhancing behaviors and eating disorder symptoms.

Pearson's *r* was used to calculate the correlation between body enhancing behavior measured by the Behaviors Checklist and eating disorder symptoms measured by the symptom scales of the Eating Disorders Inventory (EDI).

Table I: Results of Pearson correlation coefficients for body enhancing behavior and eating disorder symptoms

	Drive for Thinness	**Bulimia**	**Body Dissatisfaction**	**Ineffectiveness**	**Perfectionism**	**Interpersonal Distrust**	**Interoceptive Awareness**	**Maturity Fears**
Body enhancing behaviors (Behaviors Checklist)	0.4492*	0.2314	0.1065	-0.1039	0.3322*	0.0628	0.2648	0.0579

$p < 0.05$

The results indicated that scores on the Behavior Checklist were significantly correlated with the eating disorder symptoms of drive for thinness and perfectionism at the 5% level of significance. This implies that higher scores on the Behaviors Checklist are associated with higher scores on the symptom scales of the EDI for drive for thinness and perfectionism.

Chapter 5: Discussion

5.1 Discussion of the Body Image Test results

5.1.1 Total Sample Results

From the data presented in the previous chapter it is evident that when comparing the total sample mean scores on the Body Image Test in the present sample by the questions of self representation, personal body ideal and the representation of an average man within the same age group, there is a difference of 6% body fat between the represented self image versus the average and a difference of 4.5units on the FFMI. This indicates no significant difference in weight; however, it does imply that the average man was seen as significantly less muscular than the total sample self-representations. This indicates a distortion amongst the total sample of overestimating muscularity and therefore viewing themselves as more muscular than the average man. These results echo those in the literature that reported that American and European men rated their own self-representations as disproportionately more muscular than that of an average man within the same age group (Pope, et al, 2000).

Literature suggests that in a modern society where financial status and power relations are no longer governed by patriarchal structures, masculinity which previously had been defined in these terms has become redefined within the physical domain, as increasing gender equality cannot challenge this aspect of male identity which is bound in physicality (Whitehead, 2002). Men have therefore begun to define their masculine status in terms of physical strength and muscular definition. Literature suggests that this overestimation of muscularity in the self as compared to the average man stems from a sense of threatened masculinity and a competitive striving to establish a successful masculine identity (Whitehead, 2002). Men may therefore overestimate their own muscularity in order to reinforce a sense of stable masculinity while minimizing the muscularity of the average man. In effect this is a psychological defence that protects the individual from anxiety caused by an unstable and fragile masculine identity.

When comparing the self-representations of the total sample versus the ideal body image there is no difference in body fat percentage that indicates no significant concern with weight however the ideal is substantially less muscular with a difference of 6 units on the FFMI. This result runs contrary to the results reported in the studies conducted by Pope, as American and European men chose ideal body image representations that were substantially more muscular than their self-representations. This would indicate that the participants within the sample were interested in being less muscular than they were. This result may be a reflection of the difference between American and European samples as compared to South African samples. The homogenous nature of American and European samples as compared to a multicultural sample from South Africa may indicate a cultural difference that affects the results obtained above (Bayart, 2005). European and American societies have had a longer history of integration between ethnic groupings than South Africa that followed a separatist political policy of apartheid that in effect isolated differing racial and ethnic groupings within the country. The effects of this policy are that South African society is still working towards a unified cultural identity (Alexander, Dawson & Ichharam, 2006). The samples from Europe and America have more homogeneity than the South African sample and in effect this may account for a result that is contrary to those observed as there are still cultural differences not only within the South African sample but also on a meta-identity level where South Africa has not been as affected by globalization as American and European samples (Alexander, Dawson & Ichharam, 2006).

5.1.2 Does race count in body image?

When analyzing the same sets of body representations within the sample based on racial groupings and gym/sports club membership a number of differing results occur. Caucasian participants selected a body image representation of an average man within the same age group that had 6% more body fat yet had the same unitary score for the FFMI. This indicated that there was no significant difference seen between self-representations and representations of an average man within the same age grouping reflecting a sense of uniformity within this racial grouping that may reflect a sense of homogeneity amongst

Caucasians. The difference between the self-representation and the figure that represented the personal ideal however indicated an 8% decrease in body fat and a 6.5 unit increase on the FFMI. This indicates a minor concern to have less weight which is not significant yet it indicates a concern towards muscularity that falls within a range that is significant and implies body image concerns which are directly related to muscularity and high levels of body image dissatisfaction. These results are similar to those of samples in the United States of America and Europe (Pope, et al, 2000). This indicates a Euro-centric ideal amongst Caucasians that may be understood by cultural identifications with ancestral lineage and therefore a preponderance to adopt and follow European trends.

Black participants selected a body image representation of an average man within the same age grouping that had the same body fat percentage yet was less muscular than the self-representations by 1.5 units on the FFMI. In comparing self-representations and personal ideal body image representations, these participants chose an image that had the same body fat percentage yet was significantly less muscular by 7.5 units on the FFMI. This indicates that for Black participants there was no concern over body weight yet there was a significant concern of being overly muscular due to a distorted view of over estimating muscularity and an emphasis on a body ideal that was significantly less muscular. This is contrary to the results described by Pope, et al (2000) in the sample groups in the America and Europe. This may indicate a cultural difference in body image ideals. Research suggests that African-American males have similar body image ideals as those seen in Caucasian American males (Celio, Zabinski & Wilfrey, 2002). There are however a number of differences noted between African-Americans and Africans as defined by individuals from the continent of Africa. One of the most striking differences is that Africans as opposed to African-Americans display an average body shape that is both smaller and leaner than their American counterparts (Celio, et al, 2002). The results from this sample may represent an African ideal that is culturally valued within South Africa rather than an acculturated body ideal such as that demonstrated in African-Americans.

Indian participants selected a body image representation of an average man within the same age grouping that had a 6% increase in body fat and was significantly more muscular (3.5 units on the FFMI) than the self representation images. This suggests that the Indian participants view the average body image as being slightly heavier yet significantly more muscular than their own self-representations. This may demonstrate a distorted view of their muscularity where they underestimate their musculature. The comparison between the self-representation figures and the ideal body image representations displayed an image that was leaner with 6% less body fat and only slightly more muscular with an increase of 1.5 units on the FFMI indicating a level of satisfaction with body image as there was little discrepancy between the self-representation and the reported personal body ideal which is identical to the societal ideal. These results may be best understood in terms of ethnic differences. In this manner the key principles that support these findings is collectivism.

Collectivism refers to the tendency for the individual to emphasize values that promote social cohesion and interpersonal harmony within the family or community setting (Phinney, 1996). In Indian culture there is a collectivist ideal and as such it is understandable that the personal ideal and societal ideal are identical (Kumar, 2005). The satisfaction with the self-representation also reflects this collectivist culture as it is not significantly different from both the personal and hence social ideal, thus it does not create conflict. Research suggests that due to the collectivist nature of this ethnic grouping there may be an underreporting of dissatisfaction, as it may be contradictory to social norms within the group (Phinney, 1996). The actual rate of body dissatisfaction may therefore be questionable. The underestimation of the self-representation when compared to the average may be related to the concept of modesty and restraint as cultural values in a collectivist culture (Phinney, 1996). As such individuals may present themselves as less than the average as the whole has greater meaning and value than the individuals within the community. A large body size in Indian culture is associated with power, prosperity and generosity and may therefore be seen as a societal signifier rather than a true reflection of an average man (Kumar, 2005).

Asian participants selected a body image representation of an average man within the same age grouping that had the same body fat percentage yet was significantly more muscular with an increase of 4.5 units on the FFMI. This as in the Indian participant grouping indicates a distorted view in which the self –representations are seen as disproportionately less muscular than the average body image of a male within the same age group. There was however no significant difference between the self-representations and the personal body ideal representations, which indicates a level of satisfaction with body image even though there is a distortion when comparing self-representations against the average body image for a male within the same age group. The same notion of a collectivist cultural value can be used to understand these results as both Indian and Asian communities are collectivist in nature (Phinney, 1996). The similarity in results between Asian and Indian participants may reflect these societal values especially when compared to a more individualistic cultural ideal that is present in Caucasian societies and which is emerging in Black cultural groupings due to the effects of acculturation and urbanization (Whitehead, 2002).

5.1.3 **Bigger and better: Gym members, sportsmen and their body image**

In the sub grouping of sports club members, participants selected a body image representation of an average man within the same age grouping that had 6% more body fat yet had the same values on the FFMI. This indicated that the average male is viewed as slightly heavier yet there is no significant difference between the self-representation and the average representation that supports an accurate body image perception, as there are no significant differences between the images. The weight differences would be an accurate reflection of weight loss due to aerobic exercise (Davis, 2000). The comparison between the self-representation and the personal body image ideal indicated no discrepancy between body fat percentages and a less muscular ideal (1.5 units on the FFMI). This indicates that in this sub grouping there was no significant difference in body image evaluations. Although there are differences in ideal body shapes when comparing different sporting activities, a leaner body ideal is a commonality amongst professional athletes of varying sporting activities as there is a motivation for athletic

performance rather than muscle mass, that can hamper athletic performance when overdeveloped (Davis, 2000). The results above indicates a stable and accurate body image perception as there is little distortion of body images and those differences that are noted can be accounted for due to the athletic ideals of sportsmen.

In the sub grouping of gym members, participants selected a body image representation of an average man within the same age grouping that had a 6% increase in body fat and was significantly less muscular (3 units on the FFMI). This indicated that there is a distorted view of muscularity within this population as there is an underestimation of musculature when comparing against the average male body image that may be a resultant of both exposure to muscular ideals within the fitness industry and engagement in muscle building exercise in which the goal is to become more muscular (Olivardia, 2001). The comparison of the self-representation and the personal ideal body image indicated a figure that had 8% less body fat and was only slightly more muscular (1.5 on the FFMI). This may indicate that gym members are satisfied with their body image yet may have a distorted view of the average male body image within their age group. This distorted view may be a result of the focus of gymnasiums on muscle building exercises and weight loss programmes (Olivardia, 2001).

5.1.4 **The media ideal: Body image and media effects**

Research suggests that personal body image evaluations are affected by societal body ideals that are conveyed through multiple mediums in the mass media (Tiggemann, 2002). It follows that representations of societal ideals of body images are universal and should therefore be similar across racial groupings as there is exposure to similar, if not identical media effects. In analyzing the responses by racial groupings versus the total sample mean on the figure rating scale of the Body Image Test. There were no significant differences between perceived societal ideal body image representations. Furthermore when compared to the sub groupings of gym members and sports club members it was further revealed that there was no significant differences between the total sample mean and the individual means for these sub groupings. This would support the research

conducted by Tiggemann (2002), and indicates that there is a societal ideal of body image that is universally exposed across cultures via mass media. It also suggests that this body image ideal is introjected and replaces previously held culture bound societal norms.

When the total sample mean score for the societal body image ideal is compared to the personal body image ideal representations within racial groupings and sub groupings of gym and sports club members there are a number of confounding results. In comparison there are no significant differences found between societal ideal body image and personal ideal body image representations for Black, Indian and Asian participants or for sports club members that may indicate a community or socially constructed ideals that have been introjected in these groupings. There are however significant differences for Caucasian participants and gym members as they indicated a personal body image ideal that has 8% less body fat and has 6 units more difference on the FFMI. This indicates a distorted personal body image ideal that is concerned with muscularity. Considering that 39% (n=11) of the gym member population falls into racial groupings other than Caucasian. This may indicate that there is a cultural difference in the personal body image ideal of Caucasians versus other ethnic groupings where Caucasians are influenced by notions of individuality and competitiveness rather than collectivist ideals and hence may indicate a trend of body dissatisfaction amongst Caucasians that is unique when compared to other racial groupings (Alexander, Dawson & Ichharam, 2006). Research conducted on clinical samples of males presenting with eating disorders at Tara, The H Morass Centre support these findings. In a review of the clinical presentation of hospitalized patients over a ten-year time period (1993-2003) of the entire sample (n=24), all were Caucasian males (Freeman, 2004). Due to the close association between body dissatisfaction and eating disorders, this may support a notion of a population at risk (Garner, 2002).

5.2 Body-enhancing behaviors: results of the Behaviors checklist

Results for the Behaviors Checklist indicated that the total sample mean score fell within the lowest scoring range (0-9) which represented minor body image concerns with behaviors that would not affect day-to-day activity. This result was also obtained for all the racial groupings independently and the sub groupings of sports club and gym members. These results indicate that there is no significant engagement in body enhancing behavior by any of the participants within the sample. This result is contrary to findings by Pope, et al (2002) that indicated that men are beginning to engage in significantly more body enhancing behaviours**.** It should be noted that research conducted by Freeman (2004) suggests that men generally do not report such behaviours especially if they are embarrassed by these behaviours or that the behaviour is perceived as being emasculating or feminine in nature. Furthermore one of the limitations of using self-report questionnaires is that respondents usually under-report behaviour that may be deemed dysfunctional or socially less desirable, these effects are known as Halo effects, may have also contributed to the results obtained from this self-report questionnaire (Rosnow & Rosenthal, 1991).

There were isolated behaviors that were recorded that indicated a single participant engaging in the use of over the counter narcotics to improve his appearance. Four cases of purging behavior were also reported as behaviors to improve physical appearance. These cases represented that there were some isolated cases of engagement in extreme behaviors to enhance physical appearance**.** Freeman and Szabo (2005) noted that male patients who presented with eating disordered behaviour were more likely to engage in bulimic behaviour, particularly purging behaviours. This may suggest that purging behaviour occurs more frequently in males than in females with eating disordered behaviour. Further research may highlight whether this is symptomatic of male eating disordered behaviour or whether it is due to the less secretive nature of purging behaviour that these cases are reported.

5.3 **Eating disorder symptoms amongst males**

The results from the sample on the symptom sub scales of the Eating Disorders Inventory provide interesting comparisons when compared to the non-clinical female comparison group. From the discussion of the results on the Body Image Test it was determined that weight was not an area of concern for male participants but rather that muscularity was a primary concern in body image perceptions. On the Eating Disorders Inventory symptom sub scales the mean scores of the male sample were lower than the non-clinical female comparison scores on the scale that measures drive for thinness. This indicates that males are not as concerned about weight as a factor influencing their body image evaluations. This is supported by the literature that suggests that societal body ideals for females are related to a slim ideal emphasizing weight whereas societal body ideals for males emphasize a muscular ideal that is centered around muscular definition rather than body weight (Garner, 2002).

It is of interest that the male sample scored lower on the symptom scale for Body Dissatisfaction when compared to the non-clinical female comparison group on which the measure was normed. If the literature around societal influences holds true, males and females should be tending to report equivalent incidences of body dissatisfaction (Garner, 2002). This however is not supported by these results, however it is worth noting that historically women have been exposed to societal body ideals in the media since the 1960's whereas media targeting males has only started portraying a muscular ideal since the 1990's (Tiggemann, 2002). The discrepancy in the amount of media exposure to societal body image ideals between males and females may provide an explanation as to the differing scores, which may indicate the extent to which these societal body ideals have been internalized due to media exposure.

The higher score on the Bulimia symptom scale for the non-clinical female comparison is reflected in the literature around eating disorders that suggests that there is a greater percentage of females who present with bulimic tendencies than males (Garfinkel &

Garner, 1982). This result however may not be an accurate reflection of bulimic presentation as the literature has also described how male eating disorders are under diagnosed and that males do not present for treatment of eating disorders as frequently as females (Freeman, 2004). This suggests that reported cases of male bulimia might be higher than is estimated.

The equivalency of the scores for the non-clinical female comparison and the male sample on the symptom scale of Maturity Fears may indicate the similarities of the two sample populations as the non-clinical female comparison group was conducted with University age students that fell within the same age range as the sample used in this research paper. The homogeneous nature of the two samples may account for a similar result on this symptom scale.

The male sample scored higher on symptom scales that represent personality traits associated with eating disordered behavior. These symptom scales were perfectionism; inter personal distrust, interoceptive awareness and ineffectiveness. These results reflect that males may display more personality traits that are related to eating disordered behavior than actual behaviors that are related to such disorders. In effect males may have psychological attributes that are positively correlated to eating disordered personality characteristics however they may engage in behaviours that are not positively correlated to eating disorders. This is supported by research into male patients presenting with eating disorders where diagnoses of the disordered behaviour is commonly, Eating Disorder Not Otherwise Specified which reflects behaviours that are not easily identifiable or regarded as symptomatic (Freeman, 2004). The results obtained on these symptom scales may represent that the scales were developed with a female target population thus biasing male respondents. The inadequacy of the EDI to describe male eating disordered behaviour was noted by Freeman and Szabo (2005) in their study of males presenting with eating disordered behaviour. This suggests that further research into male eating disorder symptoms is required in order to developed new measures for males with eating disordered behaviour.

5.4 **Correlations between body dissatisfaction, body image and body enhancing behaviours**

Survey results studied by Pope, et al (2000) suggest that males who are dissatisfied with their body image are actively engaging in behaviours to alter their physical appearance. These findings have been supported by Corsen and Anderson (2002), who have also noted a growing trend amongst males to actively engage in behaviors to alter their physical appearance to conform to body image ideals that they hold. The results from the correlation suggest that this is not true for the sample as there was no significant relationship between body image dissatisfaction scores and body enhancing behavior scores. This may indicate that body dissatisfaction may be a motivating component of body enhancing behaviour yet is not the determinant of engagement in that behaviour. Literature suggests that engagement in behaviour is multifactorial in nature and consists of both motivating external factors such as societal ideals and social pressure as well as internal factors such as personality and self-concept (Franken, 1988). Body dissatisfaction and its relationship to behaviour may therefore be influenced by factors as diverse as familial influence, personal development and personality dynamics. Although the result may not reflect which other factors may motivate engagement in behaviour, there is an indication that motivation to engage in behaviour consists of more than a single factor of body dissatisfaction.

Body image dissatisfaction has been a central criterion in the clinical diagnosis of eating disorders (Garner, 2002). There is strong evidence that supports the notion of dissatisfaction with body image in the development of Bulimia and Anorexia Nervosa (Garner, 2002). The negative evaluation of the body image is seen as a core motivator in the development of eating disordered behavior. From the results of the correlations between body dissatisfaction as measured on the Body Image Test and the symptom scales of the Eating Disorders Inventory, there were no significant relationships with any of the behavioral symptoms nor the personality traits except interpersonal distrust. This may indicate two points: firstly that negative evaluations of body image may not predispose an individual towards eating disordered behavior but that rather it is an

interaction of body dissatisfaction and personality traits that may predispose an individual as discussed in the previous section motivation may be multifaceted. Secondly this may indicate that an internalized societal body ideal may drive an internalized personal ideal as suggested by Tiggemann (2002). If an individual perceives that they are not achieving their personal ideal and experiences dissatisfaction they may project this dissatisfaction on to society and hence expect social rejection as their internal ideal is closely related to the expected societal ideal and its related cultural scripts (Tiggemann, 2002). This process of projecting dissatisfaction can be viewed as a psychological defence that alleviates anxiety within the individual that is felt to be unbearable (Mitchell, 1986). The result though is that the dissatisfaction becomes associated with the society on which it has been projected and in turn that society becomes seen as potentially harmful and is therefore mistrusted (Mitchell, 1986). This notion is supported by the results of the descriptive statistics that display no significant differences between the societal body ideal and the personal body ideals of the subjects in the study which would indicate that there is a sense of social affirmation of the body ideal and by the same token social disapproval of a body image if it does not reflect the societal ideal. Since the personal ideal and social ideal are identical there is strong support of the argument that if the individual feels they are not achieving their personal body image ideal then they will be shunned by society that shares the same body image ideal.

Corsen and Anderson (2002) have argued that men who engage in body enhancing behaviors to alter their physical appearance are more likely to develop sub-clinical or clinical symptoms of eating disordered behavior. The correlation between body enhancing behaviour and eating disorder symptom scales indicates that there is a significant relationship between body enhancing behaviour and a drive for thinness and perfectionism. The connection between a drive for thinness and body enhancing behaviour reflects the results of the survey studied by Pope et al, (2000). In this survey there was a higher percentage of behaviours aimed at weight reduction or weight management than any other outcome indicating a focus on weight loss as the most frequently reported behaviour. However this does not indicate whether weight loss acts to reduce body mass or to enhance muscular definition. In a traditional view of eating

disorders there is weight loss to reduce actual body mass whereas recently there have been studies of a condition referred to as a reverse anorexia where the object of weight loss is to improve muscle definition rather than to decrease body mass (Pope, et al, 2000). Freemann and Szabo (2005) noted that males who are treated for eating disorders display little concern about their body mass, which is central to treatment outcomes and reflects weight concerns. The descriptive statistics discussed earlier in this chapter support this concept, as there were no significant discrepancies in body fat percentage across all racial and sub groupings in the entire Body Image Test. This may indicate that the emphasis may be on a lean muscular physique rather than a thin physique with a low body mass. Therefore the loss of body fat may be an objective however this may be in conjunction with a drive to increase muscle mass and hence body mass.

The correlation between perfectionism and body enhancing behaviors can be understood in regard to the literature on the topic of eating disorders. Garner (1983) when developing the Eating Disorders Inventory found that certain personality traits were significantly correlated to eating disordered behavior. Of the eight symptom scales developed, five of these scales represent personality traits that are significantly correlated to eating disordered behavior. The need for perfection stems from anxieties created by feelings of self worth that are connected to self-evaluations of behavior, cognition and emotionality (Gardner, 1983). Depending on the theoretical viewpoint taken, the need for perfection may be understood as a psychological defense or as an actualizing tendency. In both understandings though it is seen as a motivating force for behavior (Franken, 1988). This suggests that a personality trait such as perfectionism would motivate behavior to decrease anxiety created by the incongruence or dissonance created between what is perceived to be the ideal and the perceived reality of the situation. In this study the emphasis is on body enhancing behavior and represents incongruence in cognitions around physical appearance and body image. It is not clear though as to what the role of cultural scripts may be in the extent to which the individual experiences body dissatisfaction.

Chapter 6: Conclusions

Research into male body image has been an under investigated area within the field of body image studies globally. Research focusing on this topic within the United States of America and Europe has observed a number of trends in male body image that are thought to reflect a global trend in male body image. The present research attempted to contribute to this work by examining body image trends in South African males and sought to determine if relationships existed between body image dissatisfaction, body enhancing behavior and symptoms of eating disorders. This section will integrate the findings discussed in the previous chapter in view of the aims of the study.

6.1 The primary aim of this research was to examine trends in body image. This was done using a number of primary research questions. The conclusions drawn from this study will be discussed as they pertain to each research question.

6.1.1 Conclusions of assessments of body image from Body Image Test

With regard to the first research question it was inferred that on average the sample was not concerned with weight issues related to their body fat percentage yet they did significantly overestimate their perceived muscularity. This shows a trend to distort muscularity and over estimate muscle mass. On average the sample tended to select an ideal body image that was less muscular than their perceived appearance. This is contrary to trends reported in the United States of America and Europe that tend to indicate a more muscular ideal and may indicate a cultural difference in internalized body image ideals in the South African sample. The perception of an average male within the same age range was perceived as less muscular yet had no difference in body fat percentage. This trend to view the self as more muscular than the average is similar to trends found in international studies and reflects psychological defences aimed at solidifying a masculine identity by devaluing the musculature of the average male. The societal body ideal was represented as more muscular than personal ideals yet still was less muscular than self-representations. Again body fat was not seen as a concern. This indicates a trend in the

sample to view the societal ideal as less muscular than self-perceptions yet more muscular than personal ideals. This again is contrary to trends described in the United States of America and Europe that reflect a societal ideal that is more muscular than the self-perceptions of men. It is worth noting that weight concerns were not significant internationally either. This reflects a similar trend in which the South African sample was not concerned around body weight but rather around issues of muscularity and muscle mass that has been noted as a core component in male body image disturbance (Olivardia, 2001). In conclusion, the South African male sample displays trends in body image that are described internationally yet also displays differences from these trends that may be representative of cultural differences.

These trends were further analyzed by racial groupings and sports club and gym membership sub groupings to determine if the trends that were displayed in the total sample represented trends within the sample. By racial groupings there was a trend amongst Caucasian participants to have a leaner and significantly more muscular personal body image ideal than other racial groupings. Black participants indicated a trend for a significantly less muscular body image ideal. Indian participants did estimate average body sizes as larger than the total sample trend. Sports club members displayed a trend that reflected the total sample trends while gym members reflected a trend towards a leaner more muscular ideal than the total sample. There was also a trend for gym members to underestimate the musculature of the average male indicating some distortion. These results reflect that there are differences between racial groupings as to their trends in assessing body image that may explain why the sample did not reflect global trends. These cultural differences across racial groupings and sports and gym membership groupings may account for differing assessments in body images, especially when compared to more heterogeneous cultural samples that were used in American and European studies

6.1.2 Conclusions on body enhancing behaviour as defined by the Behaviours Checklist.

The results of this research concluded that the sample engaged in only minimal behavior to enhance their body image. This behavior fell within a range in which it would not affect day-to-day activities and was regarded as normal grooming behavior with only minor body image disturbance associated with such behavior. It is worth noting that there was evidence of men engaging in more excessive behaviors yet these were isolated cases. Further analysis of this minority revealed that it was divided among racial groupings and sports club and gym membership groupings. No trends or similarities could be discerned from this minority that may indicate the influence of extraneous variables not included in this study.

6.1.3 Conclusions on behaviors and attitudes that are symptomatic of eating disordered behaviour as defined by the Eating Disorders Inventory symptom scales?

Although the Eating Disorders Inventory was normed on a female population that was further divided into a clinical and non-clinical population, it was thought that a comparison with the male non-clinical sample might provide an indication of symptoms that men exhibit. Since the Eating Disorders Inventory is a widely used clinical measure that is regarded as having good validity and reliability this measure was used. The inclusion of a non-clinical female comparison group in the measures norms allowed for comparisons to be made not only with a clinical population but also with the non-clinical comparison group. From the study it was concluded that the sample displayed higher symptom scale scores on the measures of ineffectiveness, perfectionism, interpersonal distrust and interoceptive awareness as compared to the non-clinical female sample. This indicates that males in the sample displayed more personality traits and attitudes that are thought to be associated to eating disordered behavior than symptomatic behaviors when compared to the female comparison group on which the test was normed reflecting possible behavioural differences in eating patterns and dietary behaviour.

6.2 The secondary aim of this research was to determine if correlations existed between the variables of body image dissatisfaction, body enhancing behavior and eating disorder symptoms.

The research showed that there was no relationship between body dissatisfaction and body enhancing behavior in the sample. It was also concluded that body dissatisfaction is related to interpersonal distrust but to no other symptoms of eating disordered behavior as measured on the Eating Disorder Inventory symptom scales. This represents a singular relationship that does not represent a predisposition towards a symptom cluster of behaviors associated with eating disorders. The research also found that there was a positive relationship between body enhancing behaviors and drive for thinness as well as perfectionism. This result indicates singular relationships but is unable to indicate a causal relationship to a symptom cluster that may predispose an individual to acquire an eating disorder or to engage in eating disordered behavior.

6.3 Limitations

This study and the results it generated were affected by a number of limitations that included; the research design, sample and instruments used.

6.3.1 Limitations in the research design

This research was conducted using a cross-sectional, non-experimental design that was appropriate to achieve the aims of the project. However, this type of research design does not allow for conclusions to be made concerning the directionality of relationships between variables. This limits the ability to determine causal relationships from the results obtained.

6.3.2 Limitations in the sample

Although the chosen sample was advantageous to the study and represented a grouping that was similar to samples used in international studies on male body image but it did

display a number of limitations. Population validity was a core limitation as the sample was both small in size and represented a male student population within a specific age range and geographical location, and hence results could not be generalized to the larger population of South African males. Results however could be compared with findings from international studies with similar sample profiles. Hawthorne effects may have posed a threat to the external validity of the research, as the researcher was present during the administration of measures. The presence of the researcher may have affected the performance of the participants. It is noted though that the participants performed similarly on most measures even when they had little exposure to the researcher due to seating arrangements during the administration of measures. The self-report nature of the measures would also combat experimenter effects, as the researcher had no interaction with participants when the measures were being completed.

6.3.3 Limitation of instruments

Although the measures utilized in this study have been used in studies internationally there was some concern regarding the psychometric properties of the Body Image Test and the Behaviors Checklist. The authors (Pope, et al, 2000) of these measures recognize that although these measures have displayed face validity in testing there has been no rigorous testing of the psychometric properties especially the validity and reliability of these measures across cultures and hence the results from these measures may provide useful descriptive information yet may not be generalisable (Pope, et al, 2000). In particular, it is noted that the Body Image Test is limited in the range of body image representations it reflects when compared to the computerized version of the same measure. This limits choice for the respondent and may skew the findings due to this lack of choice within the range. Although both these instruments have shown face validity and are regarded as useful clinical measures to determine trends in body image and body enhancing behavior, their lack of psychometric properties limits their validity and hence the generalisability of results as these measures may lack validity in the South African context and may be viewed as bias towards homogenous European and American samples rather than a culturally diverse sample group. As this research sought to make

comparisons with studies conducted in America and Europe that utilized these measures it was thought appropriate to use them so that results could be compared. In future research, it would be suggested that use of more psychometrically sound measures of body image that have been adequately validated be used so that results may be generalized to a greater degree.

The use of the Eating Disorders Inventory (EDI) also presented a number of limitations. The measure was designed for the study of diagnosed eating disordered patients and as such is primarily a measure for clinical case studies rather than non-clinical samples. The symptom scales can provide much descriptive information even when applied to a non-clinical sample, however certain items may be invalid for non-clinical use as the measure has been designed for diagnosed eating disorder ed behaviour and hence some items may lack face validity for a non-clinical respondent. The measure was also validated on a female sample and as such contains items that lack validity in a male sample group. Although the EDI has numerous limitations it is one of the most widely used measures to obtain data regarding eating disordered behaviour and analysis of the symptom scales may provide useful descriptive data that could be used to analyze male symptom trends. In future research it is suggested that a measure be used that is more accessible to a male population this may include a revision of the EDI so that items which lack validity for male respondents can be revised to enhance the validity of this measures results.

6.4 Strengths

Although there are numerous limitations associated with this study, these limitations are a reflection of the lack of investigation and study of the field of male body image. This field of body image studies has only recently begun to be examined globally and in particular work within this field in South Africa has been extremely limited. This study has begun to examine male body image within a South African university population and as such is pioneering work within this field of study. The research has also demonstrated that the available measures to measure body image concerns in males are poorly developed and further research needs to be conducted in order to evaluate male body

image adequately. Furthermore this study has also demonstrated that there are a number of differences that have been noted when comparing body image concerns amongst differing racial groupings in the sample and differences between the South African sample and those samples from Europe and America. This would suggest that there are cultural differences that are affecting the result both within the sample group and between the samples. These differences may represent very distinct differences that may have significant impact on future studies of male body image and it is suggested that these cultural differences be the focus of future study. The results of this research have thus added to field of body image studies by highlighting areas that require further research and exploration.

6.5 Suggestions for further research

This study was conducted utilizing a non-experimental design and a small sample in order to describe trends in body image amongst South African males and to serve as a pre-cursor to further experimental inquiry of body image within the South African male population.

Future research could expand the findings of this study by conducting studies with larger samples and from differing regions of South Africa. This would enhance the external and internal validity of this study by increasing the ability to generalize the findings and by formulating standardized procedures for testing.

Future studies could be conducted to standardize the measures used in this study on a South African male population. This would allow for more reliable results to be produced and for improved internal validity of the findings. These investigations would allow for more accurate assessment of male body image concerns to be made and the construction of more reliable and valid measures for measuring the construct of body image in South Africa men.

Future research could also be conducted to determine the differences between racial groupings as regards to their body image perceptions as this research highlighted a number of differences between racial groupings. This type of research if conducted with valid measures may aid in the identification of populations at risk for body image distortion and can serve as a guide for interventions within these cultural groupings.

It is also suggested that future research could focus on the role of social scripts in motivating body enhancing behavior and the effects that social scripts have on body image evaluations. This research may be able to determine key factors that cause body dissatisfaction and motivating factors in body enhancing behavior. Case studies and small sample group studies may be valuable sources of information in determining the effects of social scripts.

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Appendix i

Dear Participant,

My name is Jonathan Picton. Currently I am completing a Master of Arts degree in Clinical Psychology in the School of Human and Community Development at the University of the Witwatersrand, Johannesburg. As part of the degree I am required to hand in a formal research report. The topic that I am researching is male body image amongst South African males aged 18-25years.Although female body image has been widely studied there is little research on how men feel about their bodies, exercising, weight, etcetera. I am interested in researching men's thoughts and feelings about their bodies. I am therefore inviting you to participate in this piece of research on a voluntary basis.

As a participant in this research you would be required to answer a number of questionnaires relating to your body image as a male. If you decide to participate, you will be provided with an envelope in which to place completed questionnaires. This is to ensure your privacy when answering questions. After completing the questionnaires please place them in the envelope and then deposit that envelope in the box at the front of the room prior to your leaving. By completing the questionnaires and depositing them in the box it will be assumed that you are consenting to participate in this research process, and that your responses may be used for the research study. The questionnaires should take no longer than 15 minutes to complete.

All questionnaires will only be viewed by my supervisor and I. Your responses will remain confidential and only general trends will be reported rather than individual answers. As part of the study all participants have the right to withdraw from the study at any given point without any repercussions. Whether you decide to participate or not will have no effect on your marks. Participants are also entitled not to answer any questions that they feel they do not wish to. This being said, participants are encouraged to answer

all questions as it will aid the research process and allow for a fuller understanding of male body identity.

The results of this study will be presented in a formal research report. This report will be available for public viewing in the Cullen Library as from January 2007.

Should you require any further information regarding this project, please don't hesitate to contact me.

Jonathan Picton

E-mail: jonap@telkomsa.net
Telephone: 084-604-1633
Alternatively you may leave a note for me at the Psychology main office in the Umthombo Building on East Campus.

Although I do not anticipate that this is likely, should this process cause you any distress please note the following counseling services that are free or of low cost to students:

Counseling and Careers Development Unit: 011-717-3500
WITS Psychology Clinic: 011-717-4513
Lifeline: 011-728-1347
Overeaters Anonymous: 011-648-0396
Tara Hospital: Eating Disorders Unit: 011-535-3000

(Please note that Tara does not offer a free counseling service but will be able to provide information and referral for low cost treatment)

Appendix ii

INSTRUCTIONS: What follows are THREE questionnaires. The scales measure a variety of feelings, attitudes and behaviors. Some of the questionnaires relate to food and eating while others ask you about your feelings about yourself. There are NO RIGHT OR WRONG ANSWERS, so try to be completely honest in your answers. Results are completely confidential. Read each question carefully as some questionnaires may ask you to answer questions differently to the preceding questionnaire.

Thank you.

Demographics

Please answer each question in the space provided. This information is purely for statistical purposes.

Age: _____.

Race: _____.

Please place a tick in the block that applies to you.

	Yes	NO
1) Are you a sports club member?		
2) Are you a gym member?		
3) Have you ever been diagnosed with an eating disorder?		

Questionnaire 1

Figure Rating

Answer the following four questions below, using as a reference the twelve images presented on the next page. If you feel that the best answer to the question is an image that falls between two of the rows or two of the columns of images, feel free to choose an answer that is halfway between the rows or columns. For example, an answer to a question may be halfway between row 1 and row 2, Column A. Using this method please answer the following four questions:

1) **Choose the image that best represents your own body.**

_____ ?

2) **Choose the image that represents the body you ideally would like to have.**

_____ ?

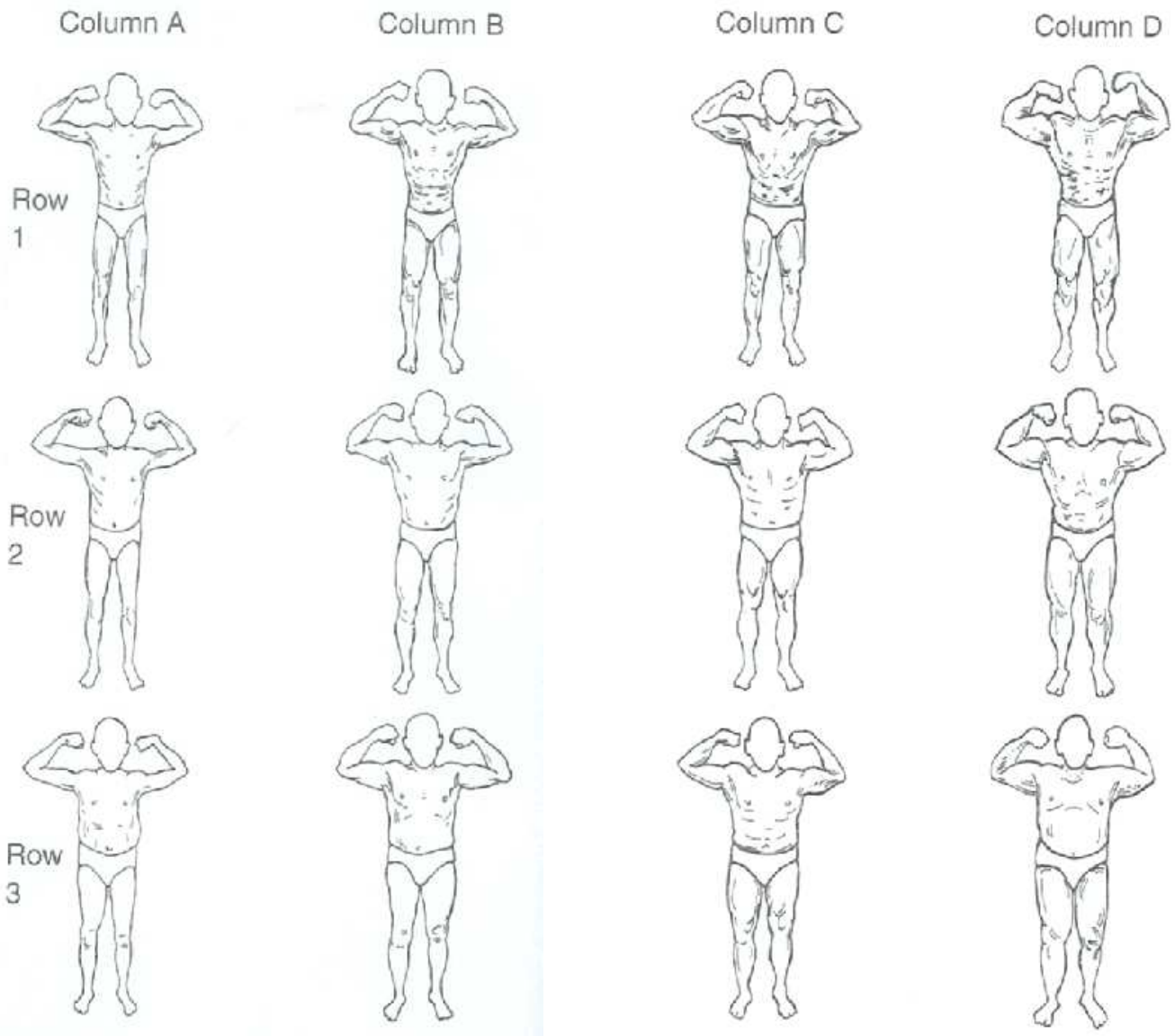
3) **Choose the image that represents the body of an average man your age.**

_____ ?

4) **Choose the image that represents the body most desired by society.**

_____ ?

Figure Table



Appendix iii

Questionnaire 2

Behaviors Checklist

Please circle the one answer that is applicable to you for each question. In filling out this questionnaire please think of your activities over the LAST SIX MONTHS.

1) **How much time do you spend each day involved in grooming activities e.g.: styling hair, picking out clothing to wear etc. to improve your appearances?**

    a) **No time**
    b) **Less than 30 min**
    c) **30 – 60 min**
    d) **More than 60 min**

2) **How often per week do you engage in physical activities in which one of your major goals is to improve your appearance?**

    a) **No activity**
    b) **Twice a week**
    c) **Three to five times a week**
    d) **More than five times a week**

3) **How much time do you spend each day on physical activities in which one of your major goal is to improve your appearance?**

    a) **No time**
    b) **Less than 60 min**
    c) **60 – 120 min**
    d) **More than 120 min**

4) **How often do you engage in dieting (restricting food /calorie intake or increasing food intake) to improve your appearance? (Not including diet for medical reasons)**

    a) **Never**
    b) **Rarely – once or twice a month**
    c) **Sometimes – once or twice a week**
    d) **Frequently – everyday**

5) **How often do you engage in eating special foods (for example high protein or low-fat foods) to improve your appearance? (Not including diet for medical reasons)**

   a) **Never**
   b) **Rarely – once or twice a month**
   c) **Sometimes – once or twice a week**
   d) **Frequently – everyday**

6) **How often do you take manufactured nutritional supplements (for example protein shakes, ESP, etc) specifically to improve your appearance?**

   a) **Never**
   b) **Rarely – once or twice a month**
   c) **Sometimes – once or twice a week**
   d) **Frequently – everyday**

7) **Have you ever taken any type of drug to gain muscle, lose weight or otherwise improve your appearance? (Not including medical reasons)**

   a) **Never**
   b) **Only drugs purchased over-the-counter or on prescription**
   c) **Use of steroids, non-prescribed use of diet pills or other substances**

8) **If you answered b or c for the previous question, how frequently do you use these drugs?**

   a) **Rarely – once or twice a month**
   b) **Sometimes – once or twice a week**
   c) **Frequently – everyday**

9) **How often have you used excessive exercising (such as working out even when injured) to improve your appearances?**

   a) **Never**
   b) **Rarely – once or twice in the last six months**
   c) **Sometimes – five or six times in the last six months**
   d) **Frequently – more than several times in the last six months**

10) How often have you used fasting (not eating for more than one day) to improve your appearance?

a) **Never**
b) **Rarely – once or twice a month**
c) **Sometimes – once or twice a week**
d) **Frequently – more than twice a week**

11) How often have you used other dietary activities such as vomiting, use of laxatives or other purging methods to improve your appearance?

a) **Never**
b) **Rarely – once or twice a month**
c) **Sometimes – once or twice a week**
d) **Frequently – more than twice a week**

12) If you answered b, c or d please indicate which activity (if more than one please circle all applicable answers)

a) **Vomiting**
b) **Use of laxatives**
c) **Other purging methods**

13) How often have you contemplated surgery to improve your appearances?

a) **Never**
b) **Rarely – once in the last six months**
c) **Sometimes – once in the last month**
d) **Frequently – once in the last week**

14) How often do you buy magazines for the exercise or fitness tips in order to improve your appearance?

a) **Never**
b) **Rarely – Once in the last six months**
c) **Sometimes – three or four times in the last six months**
d) **Frequently – every month.**

Appendix iv

Questionnaire 3

INSTRUCTIONS: This is a scale, which measures a variety of attitudes, feelings and behaviors. Some of the items relate to food and eating. Others ask you about your feelings about yourself. THERE ARE NO RIGHT OR WRONG ANSWERS SO TRY VERY HARD TO BE COMPLETELY HONEST IN YOUR ANSWERS. RESULTS ARE COMPLETELY CONFIDENTIAL. Read each question and place an (X) under the column which applies best for you. Please answer each question very carefully. Thank you.

	Always	Usually	Often	Sometimes	Rarely	Never
1) I eat sweets and Carbohydrates without feeling nervous.						
2) I think that my stomach is too big.						
3) I wish that I could return to the security of childhood.						
4)I eat when I am upset						
5) I stuff myself with food.						
6) I wish that I could be younger.						
7) I think about dieting						
8) I get frightened when my feelings are too strong.						
9) I think that my thighs are too large.						
10) I feel ineffective as a person						
11) I feel extremely guilty after overeating.						
12) I think that my stomach is just the right size.						
13) Only outstanding performance is good enough in my family						

	Always	Usually	Often	Sometimes	Rarely	Never
14) The happiest time in life is when you are a child.						
15) I am open about my feelings.						
16) I am terrified about gaining weight.						
17) I trust others.						
18) I feel alone in the world.						
19) I feel satisfied with the shape of my body.						
20) I feel generally in control of things in my life						
21) I get confused about what emotion I am feeling.						
22) I would rather be an adult than a child.						
23) I can communicate with others easily.						
24) I wish I were someone else						
25) I exaggerate or magnify the importance of weight						
26) I can clearly identify what emotion I am feeling.						
27) I feel inadequate						
28) I have gone on eating binges where I have felt that I could not stop.						
29) As a child, I tried very hard to avoid disappointing my parents and teachers						
30) I have close relationships.						
31) I like the shape of my buttocks.						

	Always	Usually	Often	Sometimes	Rarely	Never
32) I am preoccupied with the desire to be thinner						
33) I don't know what's going on inside me.						
34) I have trouble expressing my emotions to others.						
35) The demands of adulthood are too great.						
36) I hate being less than best at things						
37) I feel secure about myself						
38) I think about overeating						
39) I feel happy that I'm not a child anymore						
40) I get confused as to whether or not I am hungry						
41) I have a low opinion of myself						
42) I feel I can achieve my standards.						
43) My parents have expected excellence from me.						
44) I worry that my feelings will get out of control.						
45) I think that my hips are too big						
46) I eat moderately in front of others and stuff myself when they're gone						
47) I feel bloated after eating a normal meal						
48) I feel that people are happiest when they are children.						

	Always	Usually	Often	Sometimes	Rarely	Never
49) If I gain a pound, I worry that I will keep gaining.						
50) I feel that I am a worthwhile person.						
51) When I am upset, I don't know if I am sad, frightened or angry.						
52) I feel that I must do things perfectly, or not do them at all.						
53) I have the thought of trying to vomit to lose weight.						
54) I need to keep people at a certain distance (feel uncomfortable if they get too close)						
55) I think that my thighs are just the right size						
56) I feel empty inside (emotionally)						
57) I can talk about personal thoughts or feelings						
58) The best years of your life are when you become an adult.						
59) I think that my buttocks are too large.						
60) I have feelings I can't quite identify						
61) I eat or drink in secrecy.						
62) I think that my hips are just the right size.						
63) I have extremely high goals.						
64) When I am upset, I worry that I will start eating.						

Appendix v

Table 1: Age

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Colored	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
18	5 10.00%	3 13.04%	1 4.76%	0 0.00%	0 0.00%	1 50.00%	2 8.70%	3 11.11%	2 7.14%	3 13.64%
19	17 34.00%	7 30.43%	9 42.86%	0 0.00%	1 25.00%	0 0.00%	6 26.09%	11 40.74%	8 28.57%	9 40.91%
20	9 18.00%	4 17.39%	4 19.05%	0 0.00%	1 25.00%	0 0.00%	4 17.39%	5 18.52%	6 21.43%	3 13.64%
21	6 12.00%	2 8.70%	2 9.52%	0 0.00%	1 25.00%	1 50.00%	2 8.70%	4 14.81%	3 10.71%	3 13.64%
22	4 8.00%	2 8.70%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	3 13.04%	1 3.70%	1 3.57%	3 13.64%
23	5 10.00%	2 8.70%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	3 13.04%	2 7.41%	5 17.86%	0 0.00%
24	2 4.00%	2 8.70%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	1 3.57%	1 4.55%
25	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	0 0.00%	2 7.14%	0 0.00%
Minimum	18	18	18	0	19	18	18	18	18	18
Maximum	25	25	25	0	23	21	25	24	25	24
Mean	20.4	20.52	20.29	0	20.75	19.5	20.91	19.96	20.79	19.91
S.D.	1.91	2.11	1.79	0	1.71	2.12	2.15	1.58	2.08	1.57
S.E.	0.27	0.44	0.39	0	0.85	1.5	0.45	0.3	0.39	0.33
Median	19.83	19.88	19.63	0	20.5	19.5	20.38	19.45	20.17	19.39
Mode	19	19	19	0	21	21	19	19	19	19

Table 2: Racial Groupings

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	23	23	0	0	0	0	10	13	17	6
	46.00%	100.00%	0.00%	0.00%	0.00%	0.00%	43.48%	48.15%	60.71%	27.27%
2	21	0	21	0	0	0	9	12	6	15
	42.00%	0.00%	100.00%	0.00%	0.00%	0.00%	39.13%	44.44%	21.43%	68.18%
4	4	0	0	0	4	0	3	1	4	0
	8.00%	0.00%	0.00%	0.00%	100.00%	0.00%	13.04%	3.70%	14.29%	0.00%
5	2	0	0	0	0	2	1	1	1	1
	4.00%	0.00%	0.00%	0.00%	0.00%	100.00%	4.35%	3.70%	3.57%	4.55%
Minimum	1	1	2	0	4	5	1	1	1	1
Maximum	5	1	2	0	4	5	5	5	5	5
Mean	1.82	1	2	0	4	5	1.96	1.7	1.79	1.86
S.D.	1.06	0	0	0	0	0	1.19	0.95	1.23	0.83
S.E.	0.15	0	0	0	0	0	0.25	0.18	0.23	0.18
Median	1.6	1	2	0	4	5	1.67	1.54	1.32	1.83
Mode	1	1	2	0	4	5	1	1	1	2

Table 3: Sports club membership

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	23	10	9	0	3	1	23	0	13	10
	46.00%	43.48%	42.86%	0.00%	75.00%	50.00%	100.00%	0.00%	46.43%	45.45%
2	27	13	12	0	1	1	0	27	15	12
	54.00%	56.52%	57.14%	0.00%	25.00%	50.00%	0.00%	100.00%	53.57%	54.55%
Minimum	1	1	1	0	1	1	1	2	1	1
Maximum	2	2	2	0	2	2	1	2	2	2
Mean	1.54	1.57	1.57	0	1.25	1.5	1	2	1.54	1.55
S.D.	0.5	0.51	0.51	0	0.5	0.71	0	0	0.51	0.51
S.E.	0.07	0.11	0.11	0	0.25	0.5	0	0	0.1	0.11
Median	1.57	1.62	1.63	0	1.17	1.5	1	2	1.57	1.58
Mode	2	2	2	0	1	1	1	2	2	2

Table 4: Gym membership

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	28	17	6	0	4	1	13	15	28	0
	56.00%	73.91%	28.57%	0.00%	100.00%	50.00%	56.52%	55.56%	100.00%	0.00%
2	22	6	15	0	0	1	10	12	0	22
	44.00%	26.09%	71.43%	0.00%	0.00%	50.00%	43.48%	44.44%	0.00%	100.00%
Minimum	1	1	1	0	1	1	1	1	1	2
Maximum	2	2	2	0	1	2	2	2	1	2
Mean	1.44	1.26	1.71	0	1	1.5	1.43	1.44	1	2
S.D.	0.5	0.45	0.46	0	0	0.71	0.51	0.51	0	0
S.E.	0.07	0.09	0.1	0	0	0.5	0.11	0.1	0	0
Median	1.39	1.18	1.8	0	1	1.5	1.38	1.4	1	2
Mode	1	1	2	0	1	2	1	1	1	2

Table 5: Have you ever been diagnosed with an eating disorder?

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
2	50	23	21	0	4	2	23	27	28	22
	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Minimum	2	2	2	0	2	2	2	2	2	2
Maximum	2	2	2	0	2	2	2	2	2	2
Mean	2	2	2	0	2	2	2	2	2	2
S.D.	0	0	0	0	0	0	0	0	0	0
S.E.	0	0	0	0	0	0	0	0	0	0
Median	2	2	2	0	2	2	2	2	2	2
Mode	2	2	2	0	2	2	2	2	2	2

Table 6: Self Representation

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0			2	27	28	22
1	5 10.00%	3 13.04%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	5 18.52%	1 3.57%	4 18.18%
2	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
3	9 18.00%	5 21.74%	3 14.29%	0 0.00%	0 0.00%	1 50.00%	5 21.74%	4 14.81%	3 10.71%	6 27.27%
4	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
5	4 8.00%	1 4.35%	1 4.76%	0 0.00%	2 50.00%	0 0.00%	4 17.39%	0 0.00%	3 10.71%	1 4.55%
7	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
8	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
9	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
10	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
15	5 10.00%	1 4.35%	3 14.29%	0 0.00%	0 0.00%	1 50.00%	0 0.00%	5 18.52%	3 10.71%	2 9.09%
17	10 20.00%	4 17.39%	5 23.81%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	8 29.63%	5 17.86%	5 22.73%
18	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
19	5 10.00%	4 17.39%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	4 17.39%	1 3.70%	5 17.86%	0 0.00%
21	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
31	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	1 3.57%	1 4.55%
33	1 2.00%	0 0.00%	0 0.00%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
35	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Minimum	1	1	1	0	5	3	2	1	1	1
Maximum	35	31	35	0	33	15	33	35	33	35
Mean	12.02	10.74	13.14	0	15	9	11.39	12.56	13.04	10.73
S.D.	9.14	8.66	9.3	0	13.27	8.49	9.35	9.11	8.41	10.05
S.E.	1.29	1.81	2.03	0	6.63	6	1.95	1.75	1.59	2.14
Median	14.7	10	15	0	11	9	7	15.2	15.17	6
Mode	17	3	17	0	5	3	3	17	19	3

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
3	9	4	4	0	0	1	2	7	3	6
	18.00%	17.39%	19.05%	0.00%	0.00%	50.00%	8.70%	25.93%	10.71%	27.27%
4	2	2	0	0	0	0	1	1	2	0
	4.00%	8.70%	0.00%	0.00%	0.00%	0.00%	4.35%	3.70%	7.14%	0.00%
5	16	10	6	0	0	0	9	7	10	6
	32.00%	43.48%	28.57%	0.00%	0.00%	0.00%	39.13%	25.93%	35.71%	27.27%
7	11	3	5	0	3	0	5	6	7	4
	22.00%	13.04%	23.81%	0.00%	75.00%	0.00%	21.74%	22.22%	25.00%	18.18%
11	1	0	1	0	0	0	1	0	1	0
	2.00%	0.00%	4.76%	0.00%	0.00%	0.00%	4.35%	0.00%	3.57%	0.00%
17	6	2	2	0	1	1	4	2	4	2
	12.00%	8.70%	9.52%	0.00%	25.00%	50.00%	17.39%	7.41%	14.29%	9.09%
19	2	1	1	0	0	0	1	1	0	2
	4.00%	4.35%	4.76%	0.00%	0.00%	0.00%	4.35%	3.70%	0.00%	9.09%
21	2	1	1	0	0	0	0	2	1	1
	4.00%	4.35%	4.76%	0.00%	0.00%	0.00%	0.00%	7.41%	3.57%	4.55%
33	1	0	1	0	0	0	0	1	0	1
	2.00%	0.00%	4.76%	0.00%	0.00%	0.00%	0.00%	3.70%	0.00%	4.55%
Minimum	3	3	3	0	7	3	3	3	3	3
Maximum	33	21	33	0	17	17	19	33	21	33
Mean	8.36	7.17	9.29	0	9.5	10	8.17	8.52	7.71	9.18
S.D.	6.56	5.48	7.78	0	5	9.9	5.25	7.59	5.11	8.09
S.E.	0.93	1.14	1.7	0	2.5	7	1.09	1.46	0.96	1.73
Median	5.38	5.05	6.6	0	7.17	10	5.44	5.29	5.4	5.33
Mode	5	5	5	0	7	3	5	3	5	3

Table 7: Personal ideal body image

Table 8: Representation of body of average man who is the same age

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
3	6 12.00%	1 4.35%	5 23.81%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	4 14.81%	1 3.57%	5 22.73%
5	3 6.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	1 50.00%	2 8.70%	1 3.70%	1 3.57%	2 9.09%
10	2 4.00%	2 8.70%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	1 3.57%	1 4.55%
15	3 6.00%	1 4.35%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	2 7.41%	2 7.14%	1 4.55%
16	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
17	19 38.00%	10 43.48%	9 42.86%	0 0.00%	0 0.00%	0 0.00%	8 34.78%	11 40.74%	8 28.57%	11 50.00%
18	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
19	6 12.00%	2 8.70%	2 9.52%	0 0.00%	1 25.00%	1 50.00%	2 8.70%	4 14.81%	5 17.86%	1 4.55%
29	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
31	6 12.00%	3 13.04%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	4 17.39%	2 7.41%	5 17.86%	1 4.55%
33	1 2.00%	0 0.00%	0 0.00%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
Minimum	1	3	1	0	15	5	1	3	1	3
Maximum	33	31	31	0	33	19	33	31	33	31
Mean	16.36	17.7	13.76	0	24.5	12	16.91	15.89	18.96	13.05
S.D.	8.52	7.3	8.84	0	8.85	9.9	9.62	7.61	8.49	7.49
S.E.	1.2	1.52	1.93	0	4.43	7	2.01	1.46	1.6	1.6
Median	16.97	17.05	16.78	0	25	12	16.94	17	17.38	16.68
Mode	17	17	17	0	31	19	17	17	17	17

Table 9: Representation of body most desired by society

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
4	1	1	0	0	0	0	1	0	1	0
	2.00%	4.35%	0.00%	0.00%	0.00%	0.00%	4.35%	0.00%	3.57%	0.00%
5	10	4	3	0	1	2	3	7	5	5
	20.00%	17.39%	14.29%	0.00%	25.00%	100.00%	13.04%	25.93%	17.86%	22.73%
7	27	13	12	0	2	0	12	15	15	12
	54.00%	56.52%	57.14%	0.00%	50.00%	0.00%	52.17%	55.56%	53.57%	54.55%
10	1	0	1	0	0	0	0	1	1	0
	2.00%	0.00%	4.76%	0.00%	0.00%	0.00%	0.00%	3.70%	3.57%	0.00%
13	1	0	1	0	0	0	1	0	1	0
	2.00%	0.00%	4.76%	0.00%	0.00%	0.00%	4.35%	0.00%	3.57%	0.00%
17	1	0	1	0	0	0	1	0	0	1
	2.00%	0.00%	4.76%	0.00%	0.00%	0.00%	4.35%	0.00%	0.00%	4.55%
19	3	3	0	0	0	0	2	1	2	1
	6.00%	13.04%	0.00%	0.00%	0.00%	0.00%	8.70%	3.70%	7.14%	4.55%
21	4	1	2	0	1	0	3	1	2	2
	8.00%	4.35%	9.52%	0.00%	25.00%	0.00%	13.04%	3.70%	7.14%	9.09%
31	1	0	1	0	0	0	0	1	0	1
	2.00%	0.00%	4.76%	0.00%	0.00%	0.00%	0.00%	3.70%	0.00%	4.55%
33	1	1	0	0	0	0	0	1	1	0
	2.00%	4.35%	0.00%	0.00%	0.00%	0.00%	0.00%	3.70%	3.57%	0.00%
Minimum	4	4	5	0	5	5	4	5	4	5
Maximum	33	33	31	0	21	5	21	33	33	31
Mean	9.76	9.83	10.1	0	10	5	10.17	9.41	9.64	9.91
S.D.	6.82	7.22	6.8	0	7.39	0	6.04	7.53	6.76	7.06
S.E.	0.96	1.5	1.48	0	3.7	0	1.26	1.45	1.28	1.5
Median	7.02	7	7.13	0	7	5	7.13	6.93	7.03	7
Mode	7	7	7	0	7	5	7	7	7	7

Appendix vi

Table1: Behaviours Checklist total

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	3 6.00%	2 8.70%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	3 11.11%	2 7.14%	1 4.55%
2	3 6.00%	2 8.70%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	1 3.70%	2 7.14%	1 4.55%
3	8 16.00%	3 13.04%	5 23.81%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	8 29.63%	3 10.71%	5 22.73%
4	6 12.00%	3 13.04%	2 9.52%	0 0.00%	0 0.00%	1 50.00%	3 13.04%	3 11.11%	2 7.14%	4 18.18%
5	5 10.00%	2 8.70%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	3 13.04%	2 7.41%	5 17.86%	0 0.00%
6	3 6.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	1 50.00%	2 8.70%	1 3.70%	1 3.57%	2 9.09%
7	5 10.00%	2 8.70%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	5 21.74%	0 0.00%	3 10.71%	2 9.09%
8	6 12.00%	4 17.39%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	3 13.04%	3 11.11%	3 10.71%	3 13.64%
9	4 8.00%	2 8.70%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	3 11.11%	3 10.71%	1 4.55%
10	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
11	3 6.00%	1 4.35%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	1 3.70%	1 3.57%	2 9.09%
12	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
13	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
14	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
Minimum	1	1	1	0	5	4	2	1	1	1
Maximum	14	11	14	0	11	6	12	14	14	13
Mean	6.02	5.57	6.24	0	8	5	6.74	5.41	6.18	5.82
S.D.	3.29	2.98	3.79	0	2.58	1.41	2.72	3.64	3.36	3.26
S.E.	0.46	0.62	0.83	0	1.29	1	0.57	0.7	0.63	0.7
Median	5.5	5.25	5.25	0	8	5	6.8	4	5.5	5
Mode	3	8	3	0	11	4	7	3	5	3

Table 2: Behaviour Checklist Ranges

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	43 86.00%	21 91.30%	17 80.95%	0 0.00%	3 75.00%	2 100.00%	19 82.61%	24 88.89%	24 85.71%	19 86.36%
2	7 14.00%	2 8.70%	4 19.05%	0 0.00%	1 25.00%	0 0.00%	4 17.39%	3 11.11%	4 14.29%	3 13.64%
Minimum	1	1	1	0	1	1	1	1	1	1
Maximum	2	2	2	0	2	1	2	2	2	2
Mean	1.14	1.09	1.19	0	1.25	1	1.17	1.11	1.14	1.14
S.D.	0.35	0.29	0.4	0	0.5	0	0.39	0.32	0.36	0.35
S.E.	0.05	0.06	0.09	0	0.25	0	0.08	0.06	0.07	0.07
Median	1.08	1.05	1.12	0	1.17	1	1.11	1.06	1.08	1.08
Mode	1	1	1	0	1	1	1	1	1	1

Table 3: Use of pharmaceuticals to improve physical appearances

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	49 98.00%	23 100.00%	20 95.24%	0 0.00%	4 100.00%	2 100.00%	23 100.00%	26 96.30%	28 100.00%	21 95.45%
2	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Minimum	1	1	1	0	1	1	1	1	1	1
Maximum	2	1	2	0	1	1	1	2	1	2
Mean	1.02	1	1.05	0	1	1	1	1.04	1	1.05
S.D.	0.14	0	0.22	0	0	0	0	0.19	0	0.21
S.E.	0.02	0	0.05	0	0	0	0	0.04	0	0.05
Median	1.01	1	1.03	0	1	1	1	1.02	1	1.02
Mode	1	1	1	0	1	1	1	1	1	1

Table 4: Purging to improve physical appearances

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
1	46	23	18	0	4	1	21	25	27	19
	92.00%	100.00%	85.71%	0.00%	100.00%	50.00%	91.30%	92.59%	96.43%	86.36%
2	4	0	3	0	0	1	2	2	1	3
	8.00%	0.00%	14.29%	0.00%	0.00%	50.00%	8.70%	7.41%	3.57%	13.64%
Minimum	1	1	1	0	1	1	1	1	1	1
Maximum	2	1	2	0	1	2	2	2	2	2
Mean	1.08	1	1.14	0	1	1.5	1.09	1.07	1.04	1.14
S.D.	0.27	0	0.36	0	0	0.71	0.29	0.27	0.19	0.35
S.E.	0.04	0	0.08	0	0	0.5	0.06	0.05	0.04	0.07
Median	1.04	1	1.08	0	1	1.5	1.05	1.04	1.02	1.08
Mode	1	1	1	0	1	1	1	1	1	1

Appendix vii

Table 1: Drive for thinness

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	35 70.00%	17 73.91%	14 66.67%	0 0.00%	3 75.00%	1 50.00%	15 65.22%	20 74.07%	19 67.86%	16 72.73%
1	4 8.00%	2 8.70%	1 4.76%	0 0.00%	0 0.00%	1 50.00%	1 4.35%	3 11.11%	3 10.71%	1 4.55%
2	3 6.00%	2 8.70%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	1 3.70%	3 10.71%	0 0.00%
3	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
4	1 2.00%	0 0.00%	0 0.00%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
6	3 6.00%	1 4.35%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	2 7.41%	1 3.57%	2 9.09%
7	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
8	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
9	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	9	7	9	0	4	1	8	9	9	8
Mean	1.18	0.83	1.67	0	1	0.5	1.43	0.96	1	1.41
S.D.	2.36	1.9	2.94	0	2	0.71	2.48	2.28	2.11	2.68
S.E.	0.33	0.4	0.64	0	1	0.5	0.52	0.44	0.4	0.57
Median	0.21	0.18	0.25	0	0.17	0.5	0.27	0.18	0.24	0.19
Mode	0	0	0	0	0	0	0	0	0	0

Table 2: Bulimia

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	34 68.00%	17 73.91%	14 66.67%	0 0.00%	3 75.00%	0 0.00%	14 60.87%	20 74.07%	22 78.57%	12 54.55%
1	6 12.00%	2 8.70%	2 9.52%	0 0.00%	1 25.00%	1 50.00%	3 13.04%	3 11.11%	3 10.71%	3 13.64%
2	5 10.00%	2 8.70%	2 9.52%	0 0.00%	0 0.00%	1 50.00%	4 17.39%	1 3.70%	0 0.00%	5 22.73%
3	4 8.00%	2 8.70%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	2 7.41%	3 10.71%	1 4.55%
4	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Minimum	0	0	0	0	0	1	0	0	0	0
Maximum	4	3	4	0	1	2	3	4	3	4
Mean	0.64	0.52	0.76	0	0.25	1.5	0.74	0.56	0.43	0.91
S.D.	1.08	0.99	1.26	0	0.5	0.71	1.05	1.12	0.96	1.19
S.E.	0.15	0.21	0.28	0	0.25	0.5	0.22	0.22	0.18	0.25
Median	0.24	0.18	0.25	0	0.17	1.5	0.32	0.18	0.14	0.42
Mode	0	0	0	0	0	1	0	0	0	0

Table 3: Body dissatisfaction

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	16 32.00%	8 34.78%	6 28.57%	0 0.00%	1 25.00%	1 50.00%	7 30.43%	9 33.33%	8 28.57%	8 36.36%
1	5 10.00%	4 17.39%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	4 17.39%	1 3.70%	2 7.14%	3 13.64%
2	4 8.00%	1 4.35%	3 14.29%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	3 11.11%	1 3.57%	3 13.64%
3	4 8.00%	1 4.35%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	3 13.04%	1 3.70%	3 10.71%	1 4.55%
4	6 12.00%	2 8.70%	4 19.05%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	4 14.81%	3 10.71%	3 13.64%
5	8 16.00%	4 17.39%	2 9.52%	0 0.00%	1 25.00%	1 50.00%	2 8.70%	6 22.22%	8 28.57%	0 0.00%
6	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 7.41%	1 3.57%	1 4.55%
7	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
8	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
10	1 2.00%	0 0.00%	0 0.00%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
11	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
15	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	15	15	11	0	10	5	15	11	10	15
Mean	3.04	2.87	3	0	4.5	2.5	3.17	2.93	3.18	2.86
S.D.	3.26	3.6	2.85	0	4.2	3.54	3.83	2.76	2.71	3.92
S.E.	0.46	0.75	0.62	0	2.1	2.5	0.8	0.53	0.51	0.84
Median	2.5	1.38	2.75	0	4	2.5	2	3	3.5	1.5
Mode	0	0	0	0	0	0	0	0	0	0

Table 4: Ineffectiveness

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	24 48.00%	8 34.78%	13 61.90%	0 0.00%	2 50.00%	1 50.00%	11 47.83%	13 48.15%	12 42.86%	12 54.55%
1	10 20.00%	9 39.13%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	3 13.04%	7 25.93%	8 28.57%	2 9.09%
2	4 8.00%	1 4.35%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	4 17.39%	0 0.00%	2 7.14%	2 9.09%
3	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
4	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	2 7.14%	0 0.00%
5	3 6.00%	0 0.00%	2 9.52%	0 0.00%	0 0.00%	1 50.00%	0 0.00%	3 11.11%	1 3.57%	2 9.09%
6	2 4.00%	2 8.70%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	0 0.00%	0 0.00%	2 9.09%
11	2 4.00%	0 0.00%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	0 0.00%	1 3.57%	1 4.55%
21	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 7.41%	2 7.14%	0 0.00%
Minimum	0	0	0	0	0	0	0	0	0	0
Maximum	21	21	21	0	11	5	11	21	21	11
Mean	2.4	2.22	2.43	0	3.25	2.5	2.13	2.63	2.79	1.91
S.D.	4.63	4.46	5.07	0	5.25	3.54	3.33	5.55	5.64	2.94
S.E.	0.65	0.93	1.11	0	2.63	2.5	0.7	1.07	1.07	0.63
Median	0.6	0.89	0.31	0	1	2.5	0.67	0.57	0.75	0.42
Mode	0	1	0	0	0	0	0	0	0	0

Table 5: Perfectionism

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
1	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 7.41%	1 3.57%	1 4.55%
2	3 6.00%	2 8.70%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	1 3.70%	2 7.14%	1 4.55%
3	5 10.00%	5 21.74%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	3 11.11%	4 14.29%	1 4.55%
4	8 16.00%	3 13.04%	3 14.29%	0 0.00%	1 25.00%	1 50.00%	4 17.39%	4 14.81%	4 14.29%	4 18.18%
6	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
7	3 6.00%	2 8.70%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	3 13.04%	0 0.00%	1 3.57%	2 9.09%
8	8 16.00%	4 17.39%	3 14.29%	0 0.00%	0 0.00%	1 50.00%	3 13.04%	5 18.52%	6 21.43%	2 9.09%
9	2 4.00%	0 0.00%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	1 3.70%	1 3.57%	1 4.55%
10	3 6.00%	0 0.00%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	2 7.41%	2 7.14%	1 4.55%
11	3 6.00%	0 0.00%	3 14.29%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	1 3.70%	0 0.00%	3 13.64%
12	5 10.00%	3 13.04%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	3 11.11%	2 7.14%	3 13.64%
13	3 6.00%	0 0.00%	2 9.52%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	1 3.70%	2 7.14%	1 4.55%
15	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 7.41%	1 3.57%	1 4.55%
18	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Mean	7.48	5.87	9.1	0	9	6	7.3	7.63	6.71	8.45
S.D.	4.31	4.03	4.33	0	3.74	2.83	3.61	4.89	4.07	4.5
S.E.	0.61	0.84	0.95	0	1.87	2	0.75	0.94	0.77	0.96
Median	7.75	4.33	9.75	0	9.5	6	7.33	8	7.5	8.5
Mode	8	3	8	0	4	8	4	8	8	4

Table 6: Interpersonal distrust

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	10 20.00%	8 34.78%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	5 21.74%	5 18.52%	8 28.57%	2 9.09%
1	4 8.00%	2 8.70%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	2 7.41%	3 10.71%	1 4.55%
2	12 24.00%	6 26.09%	3 14.29%	0 0.00%	2 50.00%	1 50.00%	6 26.09%	6 22.22%	6 21.43%	6 27.27%
3	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	1 3.57%	1 4.55%
4	3 6.00%	0 0.00%	3 14.29%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	1 3.70%	2 7.14%	1 4.55%
5	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
6	3 6.00%	0 0.00%	2 9.52%	0 0.00%	0 0.00%	1 50.00%	1 4.35%	2 7.41%	1 3.57%	2 9.09%
7	2 4.00%	0 0.00%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	0 0.00%	2 9.09%
8	3 6.00%	1 4.35%	1 4.76%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	1 3.70%	1 3.57%	2 9.09%
9	3 6.00%	1 4.35%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	2 7.41%	1 3.57%	2 9.09%
10	4 8.00%	1 4.35%	3 14.29%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	3 11.11%	2 7.14%	2 9.09%
11	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
14	1 2.00%	1 4.35%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
16	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Mean	4.3	3.22	5.76	0	3	4	3.78	4.74	3.54	5.27
S.D.	4.12	4.18	4.04	0	3.46	2.83	3.86	4.36	4.04	4.11
S.E.	0.58	0.87	0.88	0	1.73	2	0.81	0.84	0.76	0.88
Median	2.42	1.75	5.75	0	2	4	2.25	3	2	5
Mode	2	0	2	0	2	2	2	2	0	2

Table 7: Interoceptive awareness

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	14 28.00%	8 34.78%	6 28.57%	0 0.00%	0 0.00%	0 0.00%	7 30.43%	7 25.93%	9 32.14%	5 22.73%
1	4 8.00%	4 17.39%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	2 7.41%	3 10.71%	1 4.55%
2	11 22.00%	7 30.43%	1 4.76%	0 0.00%	3 75.00%	0 0.00%	4 17.39%	7 25.93%	9 32.14%	2 9.09%
3	9 18.00%	3 13.04%	5 23.81%	0 0.00%	0 0.00%	1 50.00%	5 21.74%	4 14.81%	4 14.29%	5 22.73%
4	2 4.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	1 50.00%	0 0.00%	2 7.41%	1 3.57%	1 4.55%
5	3 6.00%	1 4.35%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	2 8.70%	1 3.70%	0 0.00%	3 13.64%
6	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
7	2 4.00%	0 0.00%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	0 0.00%	2 9.09%
8	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	1 3.57%	0 0.00%
9	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
12	1 2.00%	0 0.00%	0 0.00%	0 0.00%	1 25.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
17	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Minimum	0	0	0	0	2	3	0	0	0	0
Maximum	17	5	17	0	12	4	12	17	12	17
Mean	2.84	1.39	4.05	0	4.5	3.5	2.61	3.04	2.04	3.86
S.D.	3.33	1.34	4.12	0	5	0.71	2.9	3.71	2.6	3.91
S.E.	0.47	0.28	0.9	0	2.5	0.5	0.61	0.71	0.49	0.83
Median	2.14	1.38	3.2	0	2.17	3.5	2.13	2.14	1.72	3.1
Mode	0	0	0	0	2	3	0	2	2	0

Table 8: Maturity Fears

	Total	Race					Are you a sports club member?		Are you a gym member?	
		Caucasian	Black	Coloured	Indian	Asian	Yes	No	Yes	No
Base	50	23	21	0	4	2	23	27	28	22
0	19 38.00%	12 52.17%	5 23.81%	0 0.00%	2 50.00%	0 0.00%	11 47.83%	8 29.63%	12 42.86%	7 31.82%
1	8 16.00%	4 17.39%	3 14.29%	0 0.00%	0 0.00%	1 50.00%	3 13.04%	5 18.52%	6 21.43%	2 9.09%
2	4 8.00%	3 13.04%	0 0.00%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	2 7.41%	3 10.71%	1 4.55%
3	8 16.00%	2 8.70%	5 23.81%	0 0.00%	1 25.00%	0 0.00%	2 8.70%	6 22.22%	2 7.14%	6 27.27%
4	2 4.00%	1 4.35%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	2 7.14%	0 0.00%
5	4 8.00%	1 4.35%	2 9.52%	0 0.00%	0 0.00%	1 50.00%	1 4.35%	3 11.11%	2 7.14%	2 9.09%
6	2 4.00%	0 0.00%	2 9.52%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	1 3.70%	0 0.00%	2 9.09%
8	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	1 3.57%	0 0.00%
13	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	1 4.35%	0 0.00%	0 0.00%	1 4.55%
14	1 2.00%	0 0.00%	1 4.76%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	1 3.70%	0 0.00%	1 4.55%
Minimum	0	0	0	0	0	1	0	0	0	0
Maximum	14	5	14	0	3	5	13	14	8	14
Mean	2.3	1.09	3.76	0	1.25	3	2.13	2.44	1.57	3.23
S.D.	3.08	1.47	3.99	0	1.5	2.83	3.27	2.97	2.04	3.89
S.E.	0.44	0.31	0.87	0	0.75	2	0.68	0.57	0.39	0.83
Median	1.25	0.46	3	0	1	3	0.67	1.75	0.83	2.67
Mode	0	0	0	0	0	1	0	0	0	0

Appendix viii

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Picton

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER 68309**
PROJECT	'The Shape of Things': Male Body Image amongst South African Men
INVESTIGATORS	Mr JP Picton
DEPARTMENT	Human & Comm Development/Psychology
DATE CONSIDERED	06.03.22
DECISION OF THE COMMITTEE*	Approved subject to rephrasing "Dear Participant"

This ethical clearance is valid for 2 years and may be renewed upon application

DATE 06.03.27 **CHAIRPERSON** .....
(Professor C Penn)

*Guidelines for written 'informed consent' attached where applicable

cc: Supervisor : H Haynes
Human & Comm Development

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

This ethical clearance will expire on 1 February 2007

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES