

The relationship between body surveillance, body esteem, self-esteem and eating behaviour among black male university students.

By

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DISSERTATION

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DECLARATION

I declare that **the relationship between body surveillance, body esteem, self-esteem and eating behavior among black male university students** (dissertation) has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where it states otherwise by reference or acknowledgment, the work presented is entirely my own.

DEDICATION

This dissertation is dedicated to my mother, late father, and siblings who taught me to never give up and to believe in myself.

ACKNOWLEDGEMENTS

- Thanks first and foremost to God
- I would like to acknowledge and give my warmest thanks to my supervisor (Prof Solomon Mashegoane) who made this work possible. His guidance and advice carried me through all the stages of writing my research study.
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ABSTRACT

Body surveillance is increasing among South African men and is associated with behaviours that threaten physical health, such as eating behaviours, low self-esteem and body esteem. Although research has been conducted on the relationship between body surveillance, self-esteem, body esteem and eating behaviours, there is a paucity of research on the moderator roles of body- and self-esteem in the relationship between men's body surveillance and eating behaviour in Limpopo. A quantitative study was conducted with a sample of 203 male university students from the University of Limpopo to examine the relationships between body surveillance, self-esteem, body esteem and eating behaviours. The Eating Choices Index did not correlate with any variable. Age only correlated with body esteem, and the Revised Restraint Scale only correlated with its subscales. Following that, further analysis was conducted to predict self-esteem and body esteem from body surveillance. The overall predictive models for both self-esteem and body esteem were statistically significant, but they showed that amount of variance explained was miniscule. It is recommended that scales used must be subjected to validation.

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CHAPTER ONE: INTRODUCTION

1.1 General Introduction

Body image is a multidimensional construct (Kaur et al., 2022; Schneider et al., 2016). It originates from several physiological and psychological components that each person perceives during life, in relation to the construction of a picture of him or herself that is constantly validated in his or her relationships with others (Mills et al., 2017; Williams, 2019). South Africans at the extreme ends of the body mass index range have a largely distorted body image and are highly dissatisfied with it (Mchiza et al., 2015). Szabo, a member of the South African Society of Psychiatrists, has argued that the stereotype of eating behavior being restricted to young women has changed in that young men are increasingly at risk because of pressure to obtain idealized male body types (Szabo & Freeman, 2005). Exposure to these idealized male bodies in the media may make men vulnerable to developing body image related disorders (Fawkner & McMurray, 2002).

However, the body image that males have is different to that of females. Recently, college students have shown an increase in the manner in which they objectify themselves and self-evaluate based on appearance (Brajdić Vuković et al., 2018). In addition, males who often read fitness magazines convey greater body surveillance compared to those who do not read such magazines (Prichard et al., 2020). Thus, body image suffers when men are exposed to images of unrealistic male bodies (Melching et al., 2016). Festinger (1954) in his social comparison theory, postulated that individuals are likely to feel satisfied with themselves when they compare themselves to others who are worse off. In contrast, individuals are likely to feel dissatisfied with themselves when they compare themselves to others who are better off (Farquhar & Wasylkiw, 2007).

This study focuses on body surveillance among young male university students. Body surveillance refers to constant monitoring of one's body and being preoccupied with worry over how one's body appears in the eyes of

others (Daniel & Bridges, 2010). It makes men to view themselves in an unrealistic and more negative light than how they actually look. For example, a skinny individual will believe that he is overweight (Bergeron & Tylka, 2007). Research shows that body surveillance is related to body esteem among men (Daniel & Bridges, 2010). In addition, males who experience body surveillance have been found to take part in body-enhancing behaviours that may threaten physical health (Williams, 2019). A study that was conducted to examine the relationships among social comparisons (for example, body eating and exercise), body surveillance, and body dissatisfaction in the natural environment found that comparing one's body, eating, or exercise to others or engaging in body surveillance was associated with elevated body dissatisfaction (Fitzsimmons-Craft et al., 2015; Jarman et al., 2022).

Thus, individuals who highly engage in body comparisons or body surveillance experienced higher levels of body dissatisfaction (Fitzsimmons-Craft et al., 2015). In order to establish if there is an association between body surveillance, body esteem, self-esteem and eating behaviour, it would be crucial to understand if young male university students are taking part in behaviours that are viewed as risk factors contributing to the precipitation and maintenance of eating behaviour (Martin, 2010). The proposed study intends to explore body surveillance and symptoms of eating behaviour in a non-clinical sample of young male university students. Furthermore, this study proposes to examine if there is an existing link between body surveillance and behaviours which may trigger the development of eating behaviour (Jain & Tiwari, 2016) as a study by as Maillet and Grouzet (2023) found that students who transition to university eat less food, less healthy, and less regularly.

Analysing the trends of how males perceive their body image as well as early indications of whether such trends are related to the symptoms of eating behaviour in young male university students may inform interventions to prevent the rise in such dysfunctional behaviour (Damon, 2017). This study is important for the development of intervention programs that are tailored for males, because, among other observations, current treatment programs for male patients with eating behaviour patterns associated with body image

disturbance have been reported to be ineffective (Damon, 2017; Szabo & Freeman, 2005).

1.2 Statement of the Research Problem

Over the past 50 years, the ideal male physique has become more muscular and has been evident in a number of countries including South Africa (Barbeau et al., 2022). Similar to female body ideals becoming thinner, the male body ideal has increasingly grown muscular over the past several years (De Jesus et al., 2015). Body surveillance is the behavioural manifestation of self-objectification and it is influenced, amongst others, by socially prescribed ideals (Keery et al., 2004). Body surveillance may lead males to realize that there is a discrepancy between what their body actually looks like and what they would ideally like their bodies to look like, which in turn may be associated with negative consequences such as eating behaviour, unhealthy weight control strategies, health habits, social relationships, risky sexual practices and low self-esteem and body esteem (Jain & Tiwari, 2016).

Male athletes have been assumed to be at a greater risk of developing eating disorders due to unique pressures in the sports environment (Petrie et al., 2008). Thus, the development of body comparisons, body surveillance and associated behaviours (for example, body shame) are of growing importance for men in Western societies (Schneider et al., 2016). Men who are not happy with their physical appearance take part in excessive exercising and dieting in an attempt to improve their looks (Damon, 2017). That is to say, a man must behave differently in terms of exercise (must engage in excessive exercising and eating behaviour) if he is to achieve his ideal weight and shape (Fitzsimmons-Craft et al., 2015). Excessive exercising and dieting can cause impairment in physical health and in this study, these behaviours are collectively known as body-enhancing behaviours (Dittmar, 2005).

Images in the media present ideal men as attractive, muscular, and usually more muscular than can ever be achieved through normal, healthy and measured diet and exercise (Munsey, 2006). Furthermore, these images may make individuals view themselves in a better or worse state than how they

actually look, which could affect how they act and feel around people and in society (Daniel & Bridges, 2010). Body ideals presented by the media may be causing an increase in body surveillance among young male university students, resulting in their engagement in unhealthy behaviour (Leit et al., 2001). Unhealthy behaviour may be anything from excessive exercise, dieting, to the use of harmful body changing substances (William, 2019).

Although research has been conducted on the relationship between body surveillance, self- and body esteem, there is a paucity of research on the moderator roles of body- and self-esteem in the relationship between men's body surveillance and eating behaviour in Limpopo. This study seeks to examine this relationship, as an enhanced understanding of men's body image disturbances may be utilised to develop programs to minimise this problem (Damon, 2017).

1.3 Study Aim

The aim of this study is to examine the relationship between body surveillance, body esteem, self-esteem and eating behaviour among black male university students.

1.4 Objectives

To investigate:

- 1.4.1 The relationship between body surveillance and eating behaviour among males.
- 1.4.2 The role of body esteem and self-esteem in the relationship between eating behaviour and body surveillance among males.

1.5 Hypotheses

The hypotheses for this study were as follows:

- 1.5.1 There is a negative relationship between body surveillance and both body esteem and self-esteem among males.

1.5.2 Body esteem and self-esteem will moderate the relationship between body surveillance and eating behaviour among males.

1.6 Significance of the Study

This study intends to add to the knowledge base about men and body image as previous research on body image has focused on females. Thus, it cannot be concluded that the same mechanisms or variables cause and perpetuate body surveillance among men. In addition, it is crucial for researchers to understand the relationship between body surveillance, body esteem and self-esteem as these behaviours may cause eating behaviour, symptomatology, sexual dysfunction, suicidality and depression. Understanding this relationship may help formulate and guide treatment programs and intervention. Furthermore, there is a need for health education and beneficial weight control strategies to halt the eating behaviour pandemic in South Africa as males have a largely distorted body image and are highly dissatisfied with it (Damon, 2017; De Jesus et al., 2015; Melching et al., 2016).

1.7 Summary

The chapter focused on the general introduction and orientation to the study. It introduced the study, stated the nature of the problem to be investigated, provided the main aim of the study, listed the hypotheses of the study, and concluded with a statement on the significance of the study.

CHAPTER TWO: THEORETICAL PERSPECTIVE AND LITERATURE REVIEW

2.1 Introduction

This chapter consists of operational definitions of the key concepts in the study, and the theoretical framework used to guide and provide meaning to the study. Also included in this chapter is a literature review, done with studies conducted among men, regarding the relationships between body surveillance, body esteem, self-esteem and eating behaviour. The model of the study will also be illustrated in this chapter.

2.2 Operational definition of key Concepts

(a) Body surveillance

Constant monitoring one's body and being preoccupied with worry over how one's body appears in the eyes of others (Mills et al., 2017; Xiaojing, 2017).

(b) Self-objectification

A self-perception that ensues when people view themselves as objects for use and, in turn, choose to evaluate themselves based on appearance because that is how they believe others adjudicate them (Daniel & Bridges, 2010).

(c) Body image

An individual's internal image of his or her external physical appearance (Cash & Pruzinsky, 1990; Damon, 2017).

(d) Body Ideal

“Aspiring to a degree of thinness or muscularity that one cannot easily attain” (Hausmann et al., 2004, p. 1555). This study will focus on ideals and expectations for men in terms of body size and shape.

(e) Body esteem

Self-evaluations of one’s body or appearance including weight, hair, eyes, fingernails, and other features that comprise the way one looks (Bidzan et al., 2018). This study will focus on the disorientated view of one’s body shape.

(f) Self-esteem

Confidence and satisfaction in oneself or one’s body (Abdel-Khalek, 2016).

(g) Eating behaviour

Generally, chaotic dieting, fasting, bingeing, and skipping meals; or it can mean overeating or under-eating much more or less than what the body needs (American Psychiatric Association, 2013; Barney et al., 2022). Eating behaviour may include eating disorders. However, the proposed study will focus on the non-clinical manifestation of the problem.

2.3 Theoretical Perspective of the Study

The term body image was introduced and presented from both a psychological and sociological perspective by Schilder (as cited in Grogan, 1999). Previously, researchers considered negative body image as “distorted body perceptions that were caused by brain damage” (Damon, 2017, p. 3). Psychological and sociological factors contribute to body image, and body image theories elucidate these factors (Damon, 2017). Psychological factors include low body esteem and high levels of depression, and these are common among males with body image concerns (Cordes et al., 2016; McCreary & Sasse, 2000). Sociological factors including family, peers, and media could contribute to body image concerns (Dittmar, 2005; Grogan, 1999).

Theory attempts to conceptualize the process at play when personal and exterior factors influence how individuals develop negative perceptions of their bodies. Objectification theory (Fredrickson & Roberts, 1997) has since become a popular framework in women studies (Moradi & Huang, 2008). It states that Western culture socializes girls and women to see themselves as objects that are specifically assessed based on appearance rather than personhood (Teh et al., 2020). Objectification results from the consistent subjection of the body to other people's (specifically men) leering stares and evaluations. Women and girls are socialised by Western culture to internalise these stares and evaluations of their bodies reducing them to objects. The objectification results in increased preoccupation with physical appearance, a process culminating in self-objectification (Talbot, 2020).

Self-objectification, the internalisation of objectifying tendencies by others, culminates in increased self-consciousness and monitoring of one's appearance, body shame, and eating disorder symptoms such as body image dissatisfaction, low self- and body esteem, depressed mood and restricted and disordered eating patterns (McKinley & Hyde, 1996). Thus, an integral component of objectification theory is body surveillance, a process defined as the constant monitoring of one's body, and being preoccupied with worry over how one's body appears in the eyes of others (Fredrickson et al., 1998; Sevic et al., 2020). Increased self-objectification results from individuals consistently monitoring their appearance and thinking about their body in terms of how they look instead of how their bodies feel and what they can do (Muehlenkamp & Saris–Baglama, 2002).

Self-objectification has been found to result in appearance anxiety, body shame, and eventually negative psychological and health consequences including depression (Chen & Russo, 2010), reduced body satisfaction, lowered self-esteem, reduced body esteem and restrained and disordered eating behaviours (Strelan & Hargreaves, 2005). As for women, a likely source of body surveillance in men is the media (Fredrickson et al., 1998). In addition, men are subjected to articles and magazine advertisements that

promote images of muscular male bodies (Fox & Rooney, 2015). Similar to the thin ideal for women, such a physique is impossible to attain for most men (Talbot, 2020). Thus, discrepancies that are observed when comparing one's body to ideal bodies that are highly regarded by one's culture results in body shame. Jointly, self-objectification, body surveillance and body shame make up the triad of objectification components (Daniel & Bridges, 2010).

In spite of the fact that objectification theory was formulated to explain female body image concerns, some researchers argue that it is also applicable to male body image concerns (De Jesus et al., 2015). That is, men are exposed to the same pervasive cultural systems and ideals sustained by the media that prove to be significant in research concerning objectification and body image concerns of both males and females. However, they may not experience evaluation by women to the same degree that women experience evaluation by men (Daniel & Bridges, 2010; Frederick et al., 2022). Although objectification theory was proposed ostensibly to explain the source of appearance anxiety and body shame among women, objectification theory has been used by Tiggemann and Kuring (2004), Wiseman and Moradi (2010) and Calogero (2009) to explain disordered eating in both males and females and they found adequate support for its usefulness in men (Daniel & Bridges, 2010).

2.4 Literature Review

2.4.1 Introduction to Self-objectification, Body Image and Body Surveillance

Literature on men's thoughts and perceptions about their bodies is not abundant (Calzo et al., 2015). Many researchers have studied body image in women (De Jesus et al., 2015). However, few have examined the impact of negative body image on men (Schwartz et al., 2010). Research on body image has previously focused mostly on females as well as their wish to become thinner/skinnier (Pollatos et al., 2020). However, men were not immune to idealized figures in the media (Damon, 2017). Recently, several researchers have postulated that males also experience body image concerns and have thus headed investigation in this area (Bergeron & Tylka, 2007). All

the more, men were found to change their physical self in order to meet the images of models and athletes in magazines and on television (Grogen, 1999). Men's perception of their muscularity has an impact on their well-being, proposing that body image is a significant topic of empirical and clinical interest for men as negative body image may result in body surveillance (Pope et al., 2000).

For men, an ideal body image comprises of a lean yet muscular physique (Damon, 2017). The cultural emphasis that is placed on physical perfection adds on to men's feelings about themselves, negatively affecting self-esteem and depression levels (Williams, 2019). For some individuals, body image disturbance is related to problematic behaviours such as eating problems (Gillen & Lefkowitz, 2006). Men take part in diverse dangerous activities in order to obtain their ideal body image. Some activities comprise of over-exercising, dieting, and intense surgeries. Over-exercising refers to working out for 2-5 hours daily (Harmon, 2009). Intense surgeries include pectoral implants (Dittmar, 2005; Tantleff-Dunn, 2001), liposuction, and gastric bypass surgery. In this study, behaviours to modify one's body are referred to as body-enhancing behaviours (Bozard & Young, 2016; Damon, 2017).

For the purpose of this study, body surveillance is defined as constant monitoring of one's body and being preoccupied with worry over how one's body appears in the eyes of others (Grogen, 2017). Body surveillance is the chronic view of one's body as an object, leading to habitual body monitoring, shame and anxiety about one's body (Grogen, 2021) and it results in different kinds of negative outcomes such as negative self-perception, depressed mood and eating behaviour (Dittmar, 2005, 2009). The majority of males are dissatisfied with the shape of their bodies and would like to either lose or gain weight, and build their muscles (Damon, 2017). Males as young as 6 years may experience body surveillance (Pope et al., 2000). Males normally would like to gain twenty kilograms in muscles and lose eight kilograms in fat (Damon, 2017).

Males are typically dissatisfied with their arms, chest and stomach, while females are dissatisfied with their lower bodies (McCabe & Ricciardelli, 2001; Sarwer et al., 1998). A majority of male and female (72%) adolescents from Nova Scotia, Canada regard the ideal male body image as muscular, whereas 8% of males and females designate the ideal male body image as slim (T. Morrison et al., 2004). Males with a muscular chest are described as comprising of the following characteristics: assertive, confident, athletic, sexually active, and popular, whereas males with a less muscular chest are designated as lonely and depressed (Daniel & Bridges, 2010). These characteristics are consistent with the ideal body image and will thus, reinforce males' preoccupation with appearance and body image (Nowell & Ricciardelli, 2008).

College students between the ages of 19 and 25 years categorize 40 ideal male characteristics into 3 fundamental elements (somatotypes) namely: endomorph (fat), ectomorph (thin), and mesomorph (muscular) (Kirkpatrick & Sanders, 1978). Mesomorph is characterized as "strong, best friend, fights, cheats, lots of friends, forgets, polite, happy, helps others, argues, brave, healthy, teases, naughty, good-looking, mean, smart, neat and me" (Kirkpatrick & Sanders, 1978, p. 92). Individuals between the ages of 26 and 40 years describe endomorphic and ectomorphic figures in a negative but equal manner. However, as age increases, the ectomorphic figure becomes more negatively labelled than the endomorphic figure. Thus, it can be concluded that mesomorphic figures are more valued by college students than endomorphic and ectomorphic figures (Kirkpatrick & Sanders, 1978).

The media bombards us with cookie cutter images of ideal bodies for men and women (Modica, 2019). Men's magazines issue more advertisements and articles about changing body shape as opposed to losing weight, proposing that males might be more concerned with overall physique than with fat (Andersen & DiDomenico, 1992). In addition, between 1980 and 1991, men's fashion magazines issued an increasing number of articles on men's weight and health concerns (Leit et al., 2002). A trend for the increased use of young male bodies in fashion magazines and in marketing various products

has been noted (Davis et al., 1993). Fictional characters such as GI Joe have become increasingly muscular over time, with the majority of contemporary characters having physiques that are more muscular than is humanly attainable (Pope et al., 1999).

These trends in cultural ideals may contribute to the development of psychopathology in the general population. Among women, it has been presumed that cultural ideals of thinness may contribute to the increasing prevalence of eating disorders. Similarly among men, cultural ideals of muscularity may contribute to lower self-esteem about the body and possibly leading to the abuse of anabolic-androgenic steroids (Pope & Katz, 1994). This study will be guided by objectification theory to specify and test a path model that incorporates the internalisation of media ideals, the drive for muscularity and consequences in men. In the following sections, the researcher will attempt to illuminate aspects of the self-objectification process, including its causes, correlates, and consequences.

2.4.2 Self-objectification and Internalisation of Media Ideals

Internalization is defined as a cognitive endorsement of the social and cultural ideal of attractiveness to a point where body image and behaviour are adversely affected (Tehrani, 2013; Williams, 2019). That is to say, internalization occurs when an individual takes up the culturally and socially portrayed ideal as personally alluring and thus, condition behaviour to conform to this ideal. The internalization and pursuit of an ideal body as determined by a societal standard of attractiveness can play a significant role in body surveillance and eating behaviour (Choi et al., 2021; Gobin, et al., 2022). Body surveillance is proposed to lead to body shame, or the perceived failure to meet internalized, cultural body ideals (Cole et al., 2013). Furthermore, two recent longitudinal studies reported unexpected relationships between the key constructs, for example, body surveillance predicted the internalization of appearance ideals (Vangeel et al., 2018).

Research reveals that individuals who are perceived as meeting these standards of attractiveness are rewarded and attractive people are believed to be more interesting, kind, outgoing, strong, and intelligent (McKinley, 2006). Not only are they believed to be more successful, they actually are (Downs et al., 2006). Attractive people are more likely both to be hired (Marlowe et al., 1996) and to be pursued for romantic relationships (Singh & Young, 1995) and are generally more popular, socially skilled, and sexually experienced than unattractive people (Feingold, 1992). Besides physical attractiveness, other aspects of the body, such as fitness, athleticism, body control, and satisfying sexual experiences are also valued aspects of adequately functioning individuals in our culture (McKinley, 2006).

An individual's body satisfaction or dissatisfaction is directly impacted by body image (Martin, 2010), which in turn determines body esteem. The latter is a significant consideration when evaluating the result of body-ideal internalization (Rousseau & Rodgers, 2022). Longitudinal analyses have shown that low body esteem during early and middle adolescence predicts later signs of more global mental distress such as body surveillance, lower self-esteem and depressive symptoms (Neumark-Sztainer et al., 2006). Approximately 40% of males always think about their image (Cloud, 2000). A study that sought to address the effect of thin and muscular images on women's body satisfaction found that an ideal body characterized as toned (in other words both thin and somewhat muscular) has a crucial influence on body esteem (Benton & Karazsia, 2015).

Various factors such as media, parents, and peers may influence how an individual feels about his or her body (Fardouly & Vartanian, 2016; Frederick et al., 2022; Zuair & Sopory, 2022). In addition, these factors are intertwined such that individuals are influenced by media images as much as parents and peers (Damon, 2017). An individual's ideal body image represents the physical ideal that one desires to imitate, be that of a high-fashion model, celebrity, movie star, elite athlete, fitness professional, or other role models (Martin, 2010). In accordance to the self-objectification theory, social pressures are linked with body images that are seen on advertisements that

usually comprise of “sexual images and scantily clad models” to enhance their products (Barlett et al., 2008, p. 279). Men experience body surveillance upon viewing masculine and fit men on television, in magazines, or in person (Martin, 2010).

According to self-objectification theory, people today are the most media saturated and engaged in media history. Individuals struggle to maintain unique identities because the media takes the centre stage in creating the world’s perception of itself (Balraj, 2015; Edström & Jacobson 2015). In addition, individuals form perceptions on certain genders, cultures and understandings through absorbing the output of the media as a way of life (Balraj, 2015). Many people think that they are resistant to the influence of the media and that media affects others but themselves. However, research by students who study media has shown that most people depend on the media in crafting their lives, identities and opinions (Damon, 2017; Frederick et al., 2022; Tehranian, 2013). The media provides viewers with “models of what is meant to be male and female” which forms ideals of what is desirable in men and women (Barve et al., 2015; Kellner, 2011; Solomon et al., 1992).

Furthermore, there is a steady growth in the appearance of half-naked male bodies in the media (Williams, 2019). Research has found that even a brief presentation of pictures of muscular men has resulted in males experiencing a greater discrepancy between their own muscularity and the level of muscularity that they desire to have (Balraj, 2015; Reategui & Palmer, 2017). Body surveillance positively predicted people’s body shame, and body shame negatively predicted self-esteem, which in turn predicted people’s loneliness in a study by Teng et al. (2019). Moreover, this mediational model was not different between men and women. These results expand the scope of investigation by incorporating male samples, and they suggest that in addition to intrapersonal consequences, self-objectification can also influence people’s interpersonal well-being (Claudat et al., 2012; Teng et al., 2019). Thus, when men and women engage in self-objectification (for example, body surveillance) myriad negative physical and mental health outcomes ensue (Cole et al., 2013).

Men and boys are progressively striving to achieve bodies that resemble the Greek half-god Adonis (Pope et al., 2000). The Adonis complex was entrenched as males obsessed with physical attributes or appearance (Pope et al., 2000). In addition, it was named after a Greek god named Adonis who portrayed an ideal masculine body (Bryson, 2003). The Adonis complex contributed to “a crippled masculine identity, chronic depression, compulsive behaviours and often seriously impaired relationships with family members and loved ones” (Pope et al., 2000, p. 25). Men strive to find different methods to obtain an ideal body image like men in the media (Jain & Tiwari, 2016). Various factors that are linked to the Adonis complex include: weight lifting and exercise compulsions, Body Dysmorphic Disorder, eating behaviours and steroid use (Pope et al., 2000).

The literature is characterised by mixed results regarding media images and body surveillance among males. Media portrayal is not significantly associated to body image among male adolescents because the latter do not feel pressured to gain or lose weight as a consequence of the portrayals (McCabe & Ricciardelli, 2003b). However, contrary to the above mentioned findings, there is an overwhelming amount of literature that supports the notion that males become vulnerable to developing negative body images after being exposed to muscular males in advertisements (Barlett et al., 2008). Media body image negatively contributes to the view of physical appearance characteristics including: nose, cheeks and body parts that cannot be changed by dieting or exercising (Hobza et al., 2007). Undergraduate students from a Midwestern college in the US became vulnerable to developing eating behaviour patterns, body dysmorphia, excessive exercising, and steroid use after being influenced by the media (Hobza et al., 2007).

Menshealth.com, a website for the popular Men’s Health magazine, displays two current articles next to one another: “Get six-pack abs NOW” and “Have the sex of your dreams” (menshealth.com 2012). The website might not be directly stating that six-pack abs will enable men to have the best sex of their

lives, but the implication seems evident. Relatedly, the current media appears to be making relations between the importance of ideal appearance and success in relationships for men (Cole et al., 2013). In addition, there is evidence that body shame, which occurs as the result of body surveillance and comparison to societal norms for the male body, may lead men to be less hopeful that they can foster and sustain meaningful social and romantic relationships (Cole et al., 2013). A study that was conducted to examine the contribution of social media to body surveillance, eating disorder symptoms and anabolic steroid use among sexual minority men found that higher frequency use of social media platforms particularly Facebook, Instagram and Snapchat correlated with greater body image concerns and eating behavior patterns (Griffiths et al., 2018).

Another study applied social comparison theory to examine how social comparison with peers and celebrities via social network sites (SNSs), as well as celebrity involvement relate to young people's body image and their drive to achieve idealized bodies. The study found social comparison with friends on SNSs to be a crucial antecedent of body surveillance, drive to be thin and the development of muscular bodies (Ho et al., 2016). Furthermore, research by Tiggemann and Slater (2013) found that time spent on these platforms was associated with lower body esteem and higher body surveillance. Another study that was conducted to examine how Facebook use and specific Facebook activities were associated with body esteem and body surveillance in adult women found that Facebook appearance comparison and Facebook appearance-exposure positively related to body surveillance (Modica, 2019). In addition, out of all Facebook-related variables, Facebook appearance comparison emerged as the only variable significantly related to body esteem (Modica, 2019).

2.4.3 Demographic variables related to Self-objectification and Body Surveillance

Objectification theory proposes that exposure to sexualized content in the media may over time result in the internalization of the observer's perspective on the physical self (Damon, 2017; Daniel & Bridges, 2010; Fredrickson &

Roberts, 1997). This process, termed self-objectification, refers to seeing oneself through another's eyes and therefore prioritizing physical appearance over other personal qualities. Originally, Fredrickson and Roberts linked objectification theory with the sexualisation of women in the media, arguing that the media's focus on body, appearance and physical beauty may negatively affect women's perception of themselves and thus lead to poorer health- and wellbeing-related outcomes, such as body surveillance, depression, and eating behaviour (Davids et al., 2019).

Given that girls and women indeed more often than boys and men experience appearance-based evaluations and report higher levels of self-objectification and the related body-objectifying symptoms, such as eating behaviour (Calogero, 2009), it is not surprising that as many as two-thirds of the studies using the objectification framework have been carried out in exclusively female samples (Karsay et al., 2018). However, boys and men may also be affected by the media's representations of male bodies. Suggesting that there are pressures on boys and men to achieve the societal body appearance standard (Noh et al., 2018). A recent increase in body image concerns and unhealthy appearance modification behaviours has led researchers to more thoroughly explore the role of self-objectification in male health and wellbeing (McCabe & Ricciardelli, 2004).

According to Mendelson and White (1985), weight-related deficiencies in body esteem were modified by age and gender. That is to say, overweight adolescents were prone to have a remarkably low body esteem, while overweight preadolescent children were not (Mendelson & White, 1985). In addition, boys and girls seemed to follow somewhat different developmental pathways and with overweight boys having an adversely affected body esteem during early adolescence and during later adolescence in girls (Mendelson & White, 1985). In previous research the association between body esteem and age was vague. However, the effect of age was clarified in a study by (Mendelson et al., 1996) simply because they separately analyzed the two body esteem factors and found that in childhood, as children grew older, their feelings about their appearance and weight declined (Mendelson

et al., 1996). In adolescence, older adolescents were more likely to negatively evaluate their appearance, but not their weight. These results may reflect age related increases in self-awareness.

The findings of a study that explored the issue of media effects and body image perceptions on youth indicated that television advertisements equally affect both male and female viewers (Aruna & Shradha, 2008). Female youth's desire was to be as thin as the spokesperson they see on television, who are often 23% thinner than the average woman, whereas the males felt the pressure to be as muscular as the models they saw on product advertisements (Moy, 2015; Olsen, 2015). When there is a large discrepancy between perceived self-image and the body ideal, there is a high probability that it will generate a high level of anxiety within the individual which will more often than not, lead to the creation of a truly body surveillance, negative self-concept and a worrying depressive state (Reategui & Palmer, 2017).

However, it must be remembered that the self-objectification questionnaire was designed and developed specifically for use with women. Thus, a different set of attributes may be required to adequately assess the construction of self-objectification in males (Wiseman & Moradi, 2010). Qualities like "strength" and "weight" can have very different meanings for men and women (Tiggerman & Kuring, 2004). As a specific example, while "strength" is primarily conceptualized as a skill attribute (for women), the current emphasis on musculature may make strength a relatively more skill-related attribute for men. Such differences in meaning may, to some extent, explain the unexpected negative pathway between self-objectification and body surveillance in men (Daniel & Bridges, 2010).

In addition, Daniel and Bridges (2010) believe that the competency-based items on the Objectified Body Consciousness Scale (OBCS) are related to the drive for muscularity in men whereas the appearance-based items are more related to the self-objectification experiences of women. Thus, it is possible that men self-objectify when they place more value on the traits associated with the drive for muscularity as well as those solely focused on appearance,

making the measurement of self-objectification in men using OBCS less reliable and valid across studies (Daniel & Bridges, 2010).

2.4.4 Body Surveillance and Eating Behaviour

Eating behaviour refers to chaotic dieting, fasting, bingeing, skipping meals, diuretics, laxative use, diet pill use, or over- or under-eating much more or less than what the body needs (American Psychological Association, 2013). On the more clinical side of the spectrum of eating disorders, disorders such as anorexia nervosa and bulimia nervosa can be found (Robert-McComb et al., 2014). However, this study is going to focus on the non-clinical manifestation of the problem. About 10% of the disordered eating population comprises of adolescent and adult males (Ricciardelli & McCabe, 2004). Eating behaviour may occur as a result of individuals spending an inordinate amount of time obsessing about food/eating, weight/shape, and related matters (Polivy & Herman, 2002). In addition, a belief that one must strive to have a perfect body (ideal body) may contribute to eating behaviour (Derenne & Beresin, 2006; Solomon et al., 1992).

A study that was conducted to examine eating disorders and body image in male athletes found that nearly one quarter of the male athletes displayed disordered eating behaviours, which was related to body surveillance (Goltz et al., 2013). In addition, participation in sports which place emphasis on leanness, or impose weight restrictions may be related to an increased vulnerability to developing unhealthy eating behaviours (Goltz et al., 2013). Approximately 9.5% and 38% of male athletes who took part in sports with or without emphasis on leanness were at risk of developing anorexia and bulimia nervosa (Johnson et al., 1999). The above findings are consistent with another study that found that 9% of male athletes who partake in sports with or without emphasis on leanness also engage in unhealthy eating behaviours (Milligan & Pritchard, 2006).

Body surveillance has clearly been related to restriction of food intake (Conner, 2004; Engeln-Maddox et al., 2011). This is consistent with past

reviews of the literature that indicate that people who report more self-objectification and body surveillance also report more appearance anxiety and less flow experiences (Calogero, 2009; Daniel & Bridges, 2010). Consistent with the causal path proposed by objectification theory, these immediate outcomes that are prompted by self-objectification set the stage for long-term mental health outcomes, including depression, eating behaviour and sexual dysfunction (Wiseman & Moradi, 2010). In a longitudinal analysis of 10-year follow-up data on objectified body consciousness, body esteem, weight-related attitudes and behaviors, and psychological well-being, McKinley (2006) found that women who report more body surveillance, weight dissatisfaction, and dieting report less self-acceptance, which is an aspect of psychological well-being. Correspondingly, Breines et al. (2008) showed that women who report more self-objectification experienced less psychological well-being.

Eating behaviour is highly restricted to an individual's personality and consumption can be determined by various factors including body image, stress and other factors (Keller & Siegrist, 2015). Furthermore, a number of aspects of eating behaviour have significant consequences on individuals' health (Conner et al., 2004). An individual's overall eating behaviour is developed by the extent to which they portray three eating styles namely: restricted, emotional and external eating (O'Reilly et al., 2014). Restricted eating refers to the tendency to cognitively restrict food intake in order to maintain body weight and promote weight loss (Herman, 1978). Emotional eating refers to the tendency to eat more in response to emotional cues such as body surveillance, anxiety, internalisation of body ideals or high arousal (Konttinen et al., 2009). External eating can be defined as the tendency to consume in response to food-related stimuli, despite the internal states of satiety and hunger, while internal eaters eat more food in response to their internal hunger needs (Keller & Siegrist, 2015).

A tendency to respond to stressful situations with anxiety can increase the occurrence of eating behaviours (Vardar et al., 2007). Thus, a comorbid of anxiety and dieting may reveal that an individual is at a greater risk of

developing eating behaviours (Lloyd et al., 2017). When looking at the relationship between the muscular ideal internalization and eating behaviour, a relationship between dieting and symptoms of eating behaviour has been depicted. Body surveillance and size underestimation in males may also result in the use of anabolic steroids and other drugs to increase muscularity (Wright et al., 2000) which may make individuals vulnerable to blood-borne diseases, liver, kidney and other health problems (Pope et al., 2000). The use of supplements in order to obtain a muscular physique can contribute to the dietary component that is linked to the muscular ideal (Pope et al., 2017; Williams, 2019). Dietary supplement refers to a product that is orally taken to supplement diet and it comprises of: vitamins, minerals, amino acids, and other botanical products (Stohs & Kitchens, 2019).

The purpose of performance-enhancing supplements is to enhance energy production and augment body composition, including muscle growth and reducing fat (Guimaraes-Ferreira et al., 2013). Supplement use is risky because these products are usually used without completely understanding the potential dangers of the product (Murray et al., 2016; Plotan et al., 2014). Lack of knowledge may result in the use of unnecessary and harmful dosages (White, 2020). Men who are high in body surveillance appear to be more likely to try harmful and drastic measures to alter their bodies and lose weight, perhaps in an attempt to dissipate the embarrassment they feel from their bodies not measuring up to the muscular-ideal for men (Parent & Moradi, 2011). In a study by Tylka and Sabik (2010), body surveillance predicted disordered eating above and beyond all other variable associations.

Another study was conducted to examine the feasibility and efficacy of a brief non-dieting intervention in college women with various body sizes (Wilson et al., 2020). The study aimed to test whether attitudes towards dieting could be changed by a brief non-dieting intervention using cognitive dissonance techniques (Wilson et al., 2020). All in all, this intervention yielded significant improvements in dieting intention, intuitive eating, body surveillance, eating concerns/behaviours and anti-fat attitudes (Wilson et al., 2020). A decrease in body surveillance and body dissatisfaction has been related to improved

mental and physical health and reduced vulnerability to developing eating behaviours (Wilson et al, 2013). Furthermore, a reduction in body surveillance may contribute to reduced prevalence of eating behaviours, greater weight stability, and improved mental and physical health (Wilson et al., 2020).

Thus, it can be concluded that body surveillance and body concerns are allied with many key health behaviours (Grogan, 2006). Freeman (2004) states that men do not frequently seek treatment for eating behaviour in clinical settings as their cases are often undiagnosed since the latter are still considered to be predominantly female behaviours.

2.4.5 Body Esteem, Self-Esteem and Body Surveillance

Body esteem is a construct that may help explain how body surveillance leads to eating behaviour. Body esteem refers to self-evaluations of one's body or appearance (Bidzan et al., 2018). It can be shaped by a variety of sociocultural and individual factors, such as health-related behaviours, although it remains relatively stable over time (Zuair & Sopory, 2022). Body esteem and body surveillance are associated with self-esteem in that "if one dislikes the body one lives in, it's difficult to be satisfied with the self that lives there" (Drage, 2014, p. 11). In addition, negative body esteem in males is associated with depressed mood and general low self-esteem (Quick et al., 2013). Self-esteem is one of the major factors that determine body surveillance (Burlew & Shurts, 2013; Wang et al., 2020). It is a construct that may describe how body surveillance results in the aforementioned problematic body-enhancing behaviours.

The perception that people have a strong need for self-esteem plays a central role in theories of human social behaviour (Steinsbekk et al., 2021). The need for self-esteem is often viewed as a "master motive" that underlies the pursuit of more specific goals. In addition, it has been posited that one can achieve the self by living up to the standards of value prescribed by one's culture (Aubrey, 2006). This is consistent with the sociocultural theory which places

emphasis on the ways in which the core themes of society, namely the 'body-ideal' and importance of appearance are transmitted to and influence individuals (George, 2010; Rodgers, 2016). Self-esteem is a concept that applies to everyone because it necessitates the evaluations of an individual's attributes, skills and it is a measuring tool of self-worth (Phillips & Halder, 2019). Self-esteem refers to how an individual feels about him/herself (Grogen, 1999). Furthermore, "self-esteem is the evaluative component of self-concept" (Chiu, 1988, p.298). Body image is central to self-concept and self-esteem, affecting psychological functioning and well-being (Damon, 2017).

Factors that affect self-esteem levels include: peers, parents, as well as media, and they are the same factors that affect body image and body esteem (Brazier, 2017). Individuals with low self-esteem are typically hypersensitive, and they have a brittle sense of self that can be easily hurt by others (Drage, 2014). Self-esteem comprises of many factors including aspects such as body image, feelings of competence and self-satisfaction (Phillips & Halder, 2019). The word self-esteem is utilized to describe an individual's overall sense of self-worth or personal value (Pereira da Silva et al., 2022). That is to say, how much individuals appreciate and like themselves. Body image is not a separate but important aspect of self-esteem (Kostanski & Gullone, 1998). Body image is defined as an individual's internal image of his or her external physical appearance (Damon, 2017). Body image can be seen both as negative and positive depending on an individual's perception (Phillips & Halder, 2019).

An individual that has a positive body image has awareness of their body shape as well as their appearance (Brazier, 2017). In addition, individuals with a positive body image believe that other people accept and see them as attractive (Martin, 2010). However, individuals who believe that they do not look attractive begin to have negative feelings about their body image and thus, do not measure to the expectations of society, family, friends and the media (Keshk et al., 2019). Despair and low self-esteem are the outcomes of negative body image and body surveillance (Cohn, 2006; Jarman et al.,

2022). Self-esteem is influenced by many factors. A major influence on self-esteem is body image. Green and Pritchard (2003) reviewed the influences of family, peers and media on body dissatisfaction and found that self-esteem is directly affected by family comments on appearance. They also found that media exposure was a strong influence on self-esteem for women.

The re-focusing of attention to the body produces a consciousness of the body to where self-esteem is affected (Brechan & Kvaem, 2015). Surveillance behaviours are correlated with self-esteem. Cassone et al. (2016) argued that surveillance behaviours reduce self-esteem because of the failure of being like the idealized models. They also argued that to improve self-esteem there has to be a reduction in surveillance behaviours (Monahan, 2021). Adolescents who view males in the media experience low self-esteem when they look at aesthetic males. However, they experience positive self-esteem when they look at performance males (Farquhar & Wasylikiw, 2007). Self-esteem has an impact on males' desire to have muscle mass (Grossbard et al., 2009). A crucial negative relationship between self-esteem and body surveillance variables such as muscle displeasure, muscle belittlement, displeasure with body looks and/or proportion and feeling fat and/or out shape has been noted (Olivardia et al., 2004).

A detailed analysis of body image and self-concept in adolescent males and females has shown that a higher level of body surveillance is related to a lower level of self-esteem (Kostanski & Gullone, 1998; Mercurio & Landry, 2008). Furthermore, research by McKinley and Hyde (1996) demonstrated that this body surveillance is associated with lower body esteem and higher body shame, as well as lower psychological well-being in young women. A study that was conducted to test the hypothesis that children who take part in a 6-week circuit training would report crucial improvements in body esteem and reductions in body mass index compared to a control group that engaged in no exercise training (Duncan et al. (2009). The results showed that scores on the body esteem scale for children increased after the 6-week intervention period (Duncan et al., 2009).

However, contrary to the above findings, Silberstein et al. (1988) found no important differences between the self-esteem scores of college women who wish to become thinner and college women who reported satisfaction with their current figures. In addition, it was found that self-esteem is not a correlate of size underestimation, body esteem, or eating behaviour (Fabian & Thompson, 1989). To date, researchers who have studied body image in relation to body-related measures have focused solely on body surveillance, body-esteem, and self-esteem. However, self-esteem can also be attributable to power (the perceived capacity to influence others). Studies have shown that participants who experience high power report higher self-esteem than those who experience low power (Körner & Schütz, 2023). Similarly, Wojciszke and Struzynska-Kujalowicz (2007) previously stated that “power and self-esteem go together” (p. 472). Thus, Kostanski and Gullone (1998) conclude that literature investigating the relations between psychological well-being variables and body image perception has not led to any conclusive understanding of the extent and nature of the relationship between these constructs.

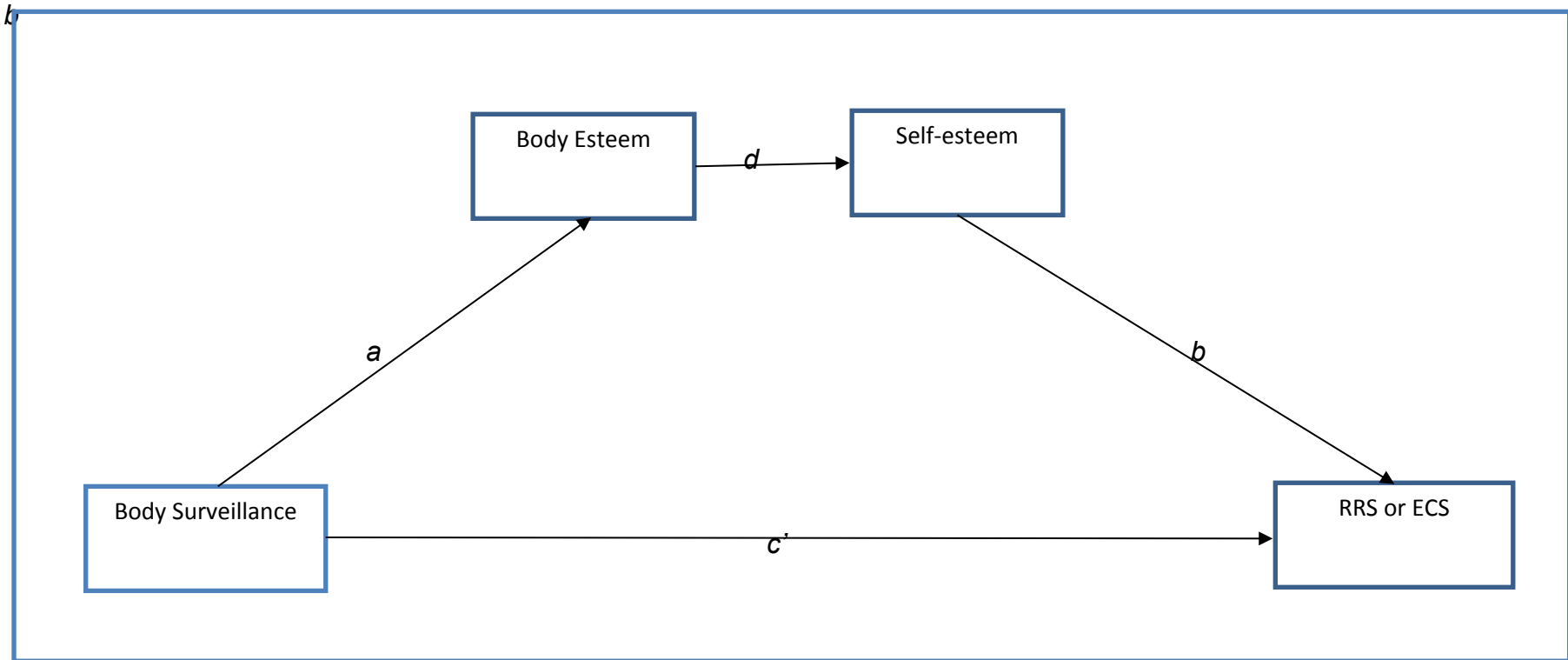
2.5 Study Model to be Tested

In this study, a complex model is proposed (see Figure 1). I envisage that the relation between body surveillance and eating behavior (either RRS or ECI) will represent a direct effect, the relations of both body esteem and self-esteem to eating behavior (RRS or ECI) are parallel multiple effects, and the relation between body esteem and self-esteem will produce a sequential mediation effect. The model will be tested in this study.

2.6 Summary

The chapter gave definitions of concepts, and detailed out the theoretical framework of the study. It also provided a literature review of the topic under study, and concluded by illustrating the model to be tested.

Figure1:
Model of the study—2 mediators operating in serial



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the research process as well as the methods used in order to reach the aims of the current study. It includes the research design, study variables, study population and sampling design, procedure used to collect data, ethical considerations and the instruments used to collect data.

3.2 Research Design

The method or design used in this study was a correlational, cross-sectional research design and it was used to examine the relations between body surveillance, body esteem, self-esteem, and eating behaviour (Christensen et al., 2015). Data was collected at a single point only with no anticipation of future collection.

3.3 Table 1
Variables of the Study

[Redacted]		
Eating behaviour	Body Esteem	Body Surveillance
	Self-Esteem	

3.4 Study Population and Sampling Design

The study included 203 University of Limpopo male students aged between 18 and 24 years (mean age = 21 years, standard deviation = 1.53). The University of Limpopo was established in 1959 and is located at Turfloop farm about 40 kilometres east of Pietersburg. The town that grew around the university was named Sovenga, for the three ethnic groups (Sotho, Venda, Tsonga) that intended to study there. Most inhabitants refer to the town as Mankweng, after one of the chiefs of the area. Convenience sampling was employed to recruit participants for the study.

3.5 Procedure for Data Collection

In this study, data was collected using questionnaires at one time-point only in adherence to all COVID-19 protocols. The researcher obtained permission to hand out questionnaires from the gate keepers of on-campus and off-campus residences. After getting access to the students, the researcher handed out information letters (appendix 2) that clearly explained the aims and significance of the study as well as the participants' right to confidentiality. The letters further stated that participation in the study was voluntary and that the students were free to withdraw from the study at any time. After it was clear that the students understood, they completed the consent form followed by the questionnaires without disclosing their names. In addition, the students were given codes for the purpose of analysis however, their names were not linked to the codes for the purpose of confidentiality or anonymity.

3.6 Ethical Considerations

The study was approved by the University of Limpopo's Turfloop Research Ethics Committee (Appendix 1). All principles relating to ethical conduct of research using human subjects were observed; the rights of participants were respected and COVID-19 protocols were adhered to throughout the data collection process. Informed consent was obtained from the participants before data collection began. Participation in the study was voluntary and

participants were made aware that they are free to withdraw from the study anytime they wished to do so. Participants were sufficiently informed about the nature of the study and were allowed to seek clarity on any aspect before signing the consent form. They were also assured of confidentiality and were informed that completion of the questionnaire was anonymous. Participants were not harmed in any way by the research study or anything related to the study.

3.7 Instruments for Data Collection

The following instruments were used to collect data

3.7.1 Demographic Variables Questionnaire

A self-constructed questionnaire was used to collect demographic information. Participants were asked to provide details about their age, gender and ethnicity

3.7.2 Objectified Body Consciousness Scale (OBCS)

The OBCS was used to measure self-objectification and, it is an 8-item measure of how much participants watched and thought of their bodies in terms of how they look versus how their bodies feel (McKinley & Hyde, 1996). Items of the OBC were each measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The three sub-scales of the OBCS include: body surveillance, body shame, and body control (Hill & Fischer, 2008). In the current study, only the body surveillance subscale was included in the analysis and it had a Cronbach's alpha of .859.

3.7.3 Body Esteem Scale (BES)

The BES was used to measure body-esteem among males. It is a 35-item scale that was used to assess respondents' attitudes towards their body.

Respondents rated their degree of satisfaction or dissatisfaction with various parts of their body and function on a Likert scale ranging from 1 (*have strong negative feelings*) and 5 (*have strong positive feelings*) (Davies et al., 2020; Hill & Lego, 2020). The three subscales of BES for males include: physical attractiveness, upper body strength, and physical condition. The BES is a measure that is globally used and it has acceptable validity and reliability. In addition, it has reliability levels estimated at a range of $\alpha = 0.85$ to 0.88 for factors such as physical attractiveness and physical condition (Bidzan et al., 2018). In the current study, the BES had a Cronbach's alpha of .806.

3.7.4 The Rosenberg Self-Esteem Scale (RSES)

The RSES was used to measure general self-esteem (Rosenberg, 1965). The RSES comprised of 10 statements that provided one global measure of self-esteem. The RSES items were measured using a 4-point Likert response scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*) (Makhubela & Mashegoane, 2017). The RSES has been used in studies about male body image and has exceptional psychometric properties (Damon, 2017; García et al., 2019). The RSES's internal consistency ranges from 0.76 to 0.86 (Supple et al., 2013). The scale also demonstrated good internal consistency with a Cronbach's alpha of 0.73 in a study that was conducted on a sample of 862 students from the Universities of Limpopo and Pretoria (Makhubela & Mashegoane, 2017). In the present study, the RSES had a Cronbach's alpha of .712.

3.7.5 The Revised Restraint Scale (RRS)

The Revised Restraint Scale was used to measure dieting behaviour. It was developed by Herman and Polivy (1980) and it comprised of 10-items. Four items (concern for dieting) focused on dieting and six items (weight fluctuation) focused on weight changes during the period of self-restraint. Concern for dieting items focused on dieting, and eating and weight fluctuation items focused on weight loss and gain (Tiggemann & Ruutel,

2001). In the current study, the researcher began from the premise that results about the factor structure of the RRS are not definitive. So, an exploratory factor analysis (EFA) was performed with the present data to establish a factor structure. Before conducting EFA, the researcher conducted Velicer's minimum average partial (MAP) test (appendix 3) and Horn's parallel analysis (PA) test using O'Connor's (2000) programme. PA suggested that two factors be retained (see appendix 4).

Results according to the original MAP test suggests that two factors should be retained; the new MAP test directs that one factor should be retained (appendix 3). The researcher concluded that it is likely the scale consists of one or two factors. Indeed, the literature suggests that whilst confusion abounds about the number of factors for the RRS, it likely consists of one or two factors. However, when forcing for a two factor solution using principal components analysis, the first factor (apparently describing dieting) has six items (items 1, 2, 5, 7, 8, 9, 10), the second factor (describing weight fluctuation) has two items (3, 4), and one item (item 6: *Do you eat sensibly in front of others and splurge alone?*) does not load on any of the factors. It has its highest loading of .347 in the first component). The total scale and its subscales achieved high reliability levels at $\alpha = .702$, $.724$, and $.747$, respectively.

3.7.6 The Eating Choices Index (ECI)

The eating choices index was used to measure eating behaviour. It is a measure that differentiated overall healthy and unhealthy eating choices (Pot et al., 2014). The four components of the ECI are: (i) the frequency of breakfast consumption, (ii) the consumption of two portions of fruit per day, (iii) the type of milk consumed, and (iv) the type of bread consumed. Each component gave respondents five options to choose from (Pot et al., 2014). These components were associated with how people eat selectively to control their weight. The ECI score (mean = 12.3; SD = 3.5) was significantly positively associated with protein, carbohydrate, fibre, vitamin C, Fe, Ca and folate ($r = 0.2-0.5$; $p < 0.001$) and significantly negatively associated with fat

intake ($r = -0.2$; $p < 0.001$) to validate its use for healthy eating choices (Pot et al., 2014). In this study, the ECI demonstrated a Cronbach's alpha of .454.

3.8 Summary

In this chapter the research design, study variables, study population and sampling design were introduced. A description of the procedure used to collect data, ethical considerations and a description of each of the instruments used to collect data were also presented in this chapter.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter focuses on how data was analyzed. It includes an explication of the plan for analyzing data, description of the demographic characteristics of the participants, and a report of the results.

4.2 Planning for Analysing Data

The Statistical Package for Social Sciences (SPSS-27) program was used to conduct a preliminary analysis of the data to confirm that there was no violation of assumptions. Table 2 shows that the scales had higher internal consistency values. The reliabilities ranged from $\alpha = .712$ to $.859$. To test if the data are normally distributed, the researcher generated skewness and kurtosis. There were no problems of skewness and kurtosis (table 2). The positive skewness values were not more than 1 and the negative ones were not more than -1, suggesting that the data is normally distributed. Values for kurtosis ranged from -0.072 and -0.843, far less than the cut-off of 3 for standard normal distribution; this indicated that there was no problem of extreme values (outliers).

4.3 Demographic Characteristics of Participants

A total number of two hundred and three questionnaires were included during data analysis. The ages were grouped into three categories. The mean age of the participants was 21 (range = 18-24), and the majority of them (53%) were aged between 20 and 21 years. All the participants indicated that their gender was male and ethnicity was African.

Table 2**Reliability, Means and Standard deviation of all major variables**

	<i>Variable</i>	<i>Cronbach alpha</i>	<i>Mean (SD)</i>	<i>Skew</i>	<i>Kurtosis</i>
1.	Body Surveillance	.859	16.50 (10.346)	0.398	-0.843
2.	Self-Esteem	.712	35.42 (4.093)	-0.702	-0.702
3.	Body Esteem	.806	38.01 (11.425)	-0.072	-0.072
4.	RRS Dieting	.702	0.733 (0.67)	1.153	1.542
5.	RRS Weight fluctuation	.724	0.79 (0.646)	0.959	0.345
6.	RRS	.747	0.76 (0.571)	0.998	1.217
7.	Eating Choices Index	.454	4.65 (2.026)	0.302	0.302

4.4 Data Analysis

Preliminary findings indicated that the dependent variables, namely, the Revised Restrained Scale and Eating Choices Index, were not linearly related to any of the independent and moderator variables of the study (see Table 3). This meant that the planned analysis (serial moderator analysis) was abandoned since the dependent variable would not be predicted. Instead, a simple linear regression was used to predict self-esteem from body surveillance.

4.5 Results

4.5.1 Preliminary Results: Correlations between All Study Variables

According to Table 3 the ECI did not correlate with any variable. Furthermore, age only correlated with body esteem, and the RRS only correlated with its subscales. Body surveillance was negatively associated with self-esteem and body esteem. The results of correlation analysis (table 3) indicated that the dependent variables, namely, the RRS and ECI, were not linearly related to any of the independent and moderator variables of the study.

A simple linear regression was used to predict self-esteem from body surveillance. The overall self-esteem predictive model was statistically significant, but it did not explain a significant amount of variance ($F[1, 201] = 4.584, p = .033, \text{adjusted } R^2 = .02$). The regression coefficient indicated that a single unit increase in body surveillance corresponded to a decrease of about -0.06 points (95% CI = 0.11—.01) of the self-esteem score. A simple linear regression was also utilized to predict body esteem from body surveillance. The overall model to predict body esteem was statistically significant, but it did not explain a significant amount of variance ($F[1, 199] = 9.503, p = .002, \text{adjusted } R^2 = .04$). The regression coefficient indicated that a single unit increase in body surveillance corresponded to a decrease of about -0.24 (95% CI = -0.39—.09) points of the body-esteem score.

Table 3**Correlation analysis of all major variables (N = 203)**

			1	2	3	4	5	6	7	8
1	Age	<i>p</i>	1							
		<i>r</i>								
2	Body Surveillance	<i>p</i>	-.136	1						
		<i>r</i>	.053†							
3	Self-Esteem	<i>p</i>	.075	-.149	1					
		<i>r</i>	<i>ns</i>	.033						
4	Body Esteem	<i>p</i>	.196	-.213	.090	1				
		<i>r</i>	.005	.002	<i>ns</i>					
5	RRS-Dieting	<i>p</i>	-.053	.072	-.058	.037	1			
		<i>r</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>				
6	RRS-Weight fluctuation	<i>p</i>	-.110	.030	.034	.071	.463	1		
		<i>r</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.001			
7	Revised Restrained Scale	<i>p</i>	-.100	.055	-.005	.066	.798	.904	1	
		<i>r</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	.001	.001		
8	Eating Choices Index	<i>p</i>	.024	-.017	.081	-.068	-.014	-.004	-.010	1
		<i>r</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	<i>ns</i>	

Note: RRS = Revised restrained scale

† = .10, * = .05, ** = .01, *** = .001

Table 4

Regression Analysis Results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	Self-esteem	-.059	.028	-.149	-2.141	.033	-.113	-.005
2	Body Esteem	-.237	.077	-.213	-3.083	.002	-.388	-.085

4.6 Summary

The chapter discussed how data was analyzed in the study. It includes an explanation of the plan for analyzing data, description of the demographic characteristics of the participants, and a report of the results.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

The current chapter discusses the findings of the study in relation to the extant literature. It discusses the relationship between age and body esteem, the lack of relationship between body surveillance and eating behavior, body esteem and self-esteem's failure to moderate the relationship between body surveillance and eating behavior as well as the association between body surveillance, body esteem and self-esteem. The chapter concludes by stating the limitations of the study, and makes recommendations based on the results.

5.2 Age and Body Esteem

The results of the current study indicated that age only correlated with body esteem and as we have seen, a youthful appearance is one of the body ideals to which men are encouraged to compare themselves (Kaur et al., 2022). Even though body esteem does not appear to vary with age (Tiggemann, 2004), it may be that concerns such as anxiety about aging may be related to body experience for men. Emerging adults, that is adults who are between adolescence and early adulthood, are generally between 18 and 29 years of age (Arnett, 1995). This in-between stage of life is filled with episodes of transience, change, non-stability and impermanence, such as transitions at educational institutions, change in roommates, house mates, and work colleagues (Kaur et al., 2022). Additionally, the cusp of adulthood or the early stage of adulthood is also a phase of self-focus and possibilities (Mendelson et al., 1996) as one begins to seek more lasting relationships and marriage prospects.

The extent to which an individual is able to find liberty, both in mind and action largely depends on the type of support received from their environment and society (Kaur et al., 2022; Munsey, 2006). In this regard, the media plays a key role in defining emerging adults' self-beliefs about themselves, including

beliefs about their physical attributes and how these attributes are further translated into behavioral outcomes (Damon, 2017; Daniel & Bridges, 2010). According to literature, body esteem continues to decrease as the adolescent ages, with the greatest body esteem deficits peaking during early adulthood (Oliveira et al., 2018). In a qualitative study, Halliwell and Dittmar (2003) found that men viewed aging as having a negative effect on appearance. In a review of body image, the following three conclusions about body esteem and ageing were made: age changes the body and its appearance, body esteem seems to be relatively stable across the lifespan and that age becomes less important as adults age (Tiggemann, 2004).

5.3 The Lack of Relationship between Body Surveillance and Eating Behavior

The current study hypothesized that there would be a significant relationship between body surveillance and eating behaviors among black male university students. No relationship between body surveillance and eating behaviors was found in the current study. This discovery can be explained by studies that have found that academic life has a significant impact on the lifestyle of many students (Larson, 2009; Papadaki et al., 2007; Racette et al., 2008). That is to say, a particularly important time in life for food choice is when people first go out independently and start making their own food choices (Baker, 1991; Marquis, 2005). For many people, this is the transition to university life. The transition to college or university is a critical time for young adults, who often have the first opportunity to make their own dietary decisions, which could negatively impact students' eating behaviors (Marquis, 2005; Rappoport, 2003).

Many studies have shown that university students often have poor eating habits (Brevard & Ricketts, 1996; Driskell et al., 2005; Racette et al., 2005). Students tend to eat fewer fruits and vegetables on a daily basis and report a high intake of foods high in fat and calories. According to the American College Health Association (2006), a 2004 study found that only 7.3% of university students ate five or more servings of fruits and vegetables a day.

The transition to university life often worsens student eating habits (Grace, 1997), which can contribute to weight issues. Horacek and Betts (1998) found that taste, time sufficiency, convenience, and budget influenced students' eating habits in that order. Other factors associated with poor eating habits in university students include increased perception of stress (Cartwright et al., 2003) and low level of nutritional knowledge (Barr, 1984; Van den Reek & Keith, 1984). These factors seem to act more as barriers to healthy eating thus, all of these factors combined can, rightly or wrongly, lead students to believe that their eating habits are not related to their body shape or type, body esteem and self-esteem (Centers for Disease Control, 1997; Racette et al., 2005).

5.4 Body Esteem and Self-esteem's Failure to Moderate the Relationship between Body Surveillance and Eating Behaviour

It was anticipated that body esteem and self-esteem will moderate the association between body surveillance and eating behaviors among male students. The moderating effect was not analysed in the current study because the independent variable (body surveillance) was not linearly associated with the two dependent variables of self-esteem and body esteem. Although the participants obtained higher scores of body surveillance, body esteem and self-esteem, the relationship between body surveillance and eating behaviors (RRS and ECI) did not emerge. This demonstration may be explained by a study by Crocker and Luhtanen (2003), which states that related data implicates low self-esteem and body esteem in a range of social and academic issues, including poor school performance, aggression and substance abuse. Recent analyses of self-esteem suggest that contingent, unstable, or fragile self-esteem is a result of academic and social problems (Crocker & Wolfe, 2001). Furthermore, people are very selective about the areas on which they stake their self-worth, concluding that "our sense of self in this world depends entirely on what we claim to be and do" (James, 1890, p. 45).

For some people, self-esteem and body esteem may depend on being attractive, liked, or good at school and for others, self-esteem may depend on being virtuous, powerful, or self-reliant (Crocker & Wolfe, 2001). Because most people seek to protect, maintain, and enhance their self-esteem, contingencies of self-worth serve an important self-regulatory role (Crocker et al., 2003). That is to say, people seek out situations and engage in activities that provide opportunities for them to achieve success and avoid failure in domains on which they stake their self-worth (Maillet & Grouzet, 2023). For example, students who base their self-esteem on academic competence report spending more time studying, whereas students who base their self-esteem and body esteem on their appearance spend more time exercising, grooming, shopping for clothes, and partying. Given on the assumption that basing one's self-worth on academic performance may be also be a possible source of self-esteem, it might be logical to assume that body image may not fully explain the observed results in male students' body esteem and self-esteem.

5.5 The Relationship between Body Surveillance, Body Esteem and Self-esteem

The results of the current study have found associations among body surveillance, body esteem and self-esteem. These results are consistent with a study by Jarman et al (2022) which found that body surveillance uniquely predicted self-esteem (Tehrani, 2013) and body esteem. Given society's message for men to focus on their appearance, men are more likely to engage in constant body surveillance to determine how their appearance compares with other men which might result in negative psychological outcomes (Cash & Szymanski, 1995) such as low self-esteem, body esteem and body shame (Tylka & Sabik, 2010). In support, U.S men with increased body surveillance experienced low self-esteem and body esteem (Mercurio & Landry, 2008). Thus, low self-esteem and body esteem are logical consequences of body surveillance.

Previous empirical research has documented the positive relationship between body surveillance and body esteem among samples across adolescents to young adults, as well as females and males (Wang et al., 2020). In studies conducted among men, body surveillance has been directly and positively associated with body esteem (Davids et al., 2019). Research has widely demonstrated that this body consciousness is associated with lower self-esteem, body esteem and higher body shame, as well as lower psychological well-being (Goldenberg et al., 2000). Theory, research, and common observation suggest that not living up to standards regarding the body can have negative consequences for the self (Choi et al., 2021). Research has shown that the bodily self is an important part of the self-concept and that feelings about the body are correlated with general feelings about the self (Goldenberg et al., 2000). Among both genders, body surveillance is associated with low self-esteem, body esteem, insecurity (Hurlock, 1967), distress (Cash & Szymanski, 1995), and depression (Goldenberg et al., 2000).

5.6 Conclusion

In conclusion, a correlation analysis of all major variables found that the Eating choices index did not correlate with any variable. Age only correlated with body-esteem. A simple linear regression was used to predict self-esteem and body esteem from body surveillance. The overall predictive model for both self-esteem and body esteem was statistically significant but it did not explain the significant amount of variance.

5.7 Limitations of the study

There are some limitations to this study that need to be noted when interpreting the findings. First, the study sample was homogenous in terms of age, gender and ethnicity, leading to a restricted variability of the sample. Thus, the generalizability of the findings of this study to other populations is limited. Second, when the participants were completing the questionnaires, it is not guaranteed that they were answering the questions truthfully. Thus,

false answers could have led to inaccurate results. In addition, participants could have falsified answers because they wanted to provide the expected answers, or socially desirable responding. Another possibility for false answers on questionnaires were that participants may have been tired after reading the lengthy questionnaires and may have decided to choose any answer so that they could quickly finish. Appropriate methods for detecting socially desirable responding should have introduced to the study.

5.8 Recommendations

Future research should address the relationships between body surveillance, self-esteem and body esteem among younger men belonging to specific racial and ethnic groups. The studies should also investigate how the young men's environments, socio-economic status and cultural background affect the constructs, namely, body surveillance, self-esteem and body esteem. Understanding the influence of cultural differences and social norms on ideal body types may also contribute to this field of research. Studies of this nature could provide a more definitive understanding of how body surveillance develops among men and characteristics of men who develop body surveillance. Parents and spouses/partners should be aware of the influence that media has on society and should strive to serve as positive role models for males of all ages. Friends, peers, counsellors, and doctors should explain to these individuals that media images are not ideal for everyone and most of the images are unrealistic because of body types. Creating a positive environment, as early as possible, in which young males can openly communicate their feelings about their body esteem, self-esteem and everyday struggles may serve to mitigate the harmful influence of media regarding body surveillance.

It may also be important to conduct validation studies of the scales. Since the scales were used in their original form, it is not clear how they may have affected the outcomes.

5.9 Summary

The chapter discussed the findings of the study in relation to the existing literature. The chapter also presents the limitations of the study, and makes recommendations based on the results.

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APPENDICES

APPENDIX 1: Ethical clearance



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TURFLOOP RESEARCH ETHICS COMMITTEE
ETHICS CLEARANCE CERTIFICATE

MEETING: 11 May 2021

PROJECT NUMBER: TREC/78/2021: PG

PROJECT:

Title: The mediator roles of body- and self-esteem in the relationship between body image dissatisfaction and body-enhancing behaviours among black male university students.

Researcher: TB Baloyi

Supervisor: Prof S Mashegoane

Co-Supervisor/s: N/A

School: Social Sciences

Degree: Master of Arts in Psychology Research

PROF P MASOKO

CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: REC-0310111-031

Note:

- i) This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.
- ii) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.
- iii) PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

APPENDIX 2: Letter of Invitation for Participants

PROJECT TITLE: THE RELATIONSHIP BETWEEN BODY SURVEILLANCE, BODY ESTEEM, SELF-ESTEEM AND EATING BEHAVIOURS AMONG BLACK MALE UNIVERSITY STUDENTS.

Project leader: Tlangelani Baloyi

1. You are invited to participate in the following research project:
The mediator roles of body- and self-esteem in the relationship between body image dissatisfaction and body-enhancing behaviours among black male university students.
2. Please answer the items of the questionnaire as honestly as possible.
3. In order to know more about the relationships between body image dissatisfaction, body-enhancing behaviours, and eating behaviour, and the mediator roles of body-esteem and self-esteem among black male university students, your contribution in this research is valued. Therefore, you are kindly requested to provide the researcher with accurate information when answering items in this questionnaire.
4. Remember that there is no right or wrong answer.
5. Your responses will be treated confidentially and anonymous.
6. Your participation is voluntary. Thus, you can withdraw from the study at any time, should you wish to do so.
7. Please do not write your name or student number on this paper.
8. Should you at any stage feel unhappy, uncomfortable or is concerned about the research study, please contact **Prof S. Mashegoane at the University of Limpopo, Department of Psychology, Private Bag X1106, Sovenga, 0727, Tel: 015 268 2317**

APPENDIX 3: Velicer's Minimum Average Partial (MAP) Test

		Component	
		1	2
Velicer's Minimum Average Partial (MAP) Test:			
1.	How often are you dieting	.465	-.178
2.	What is the maximum amount of weight (kgs) you have lost in one month	.509	.434

Eigenvalues
 5,2546
 1,7401
 1,0582
 ,9127
 ,7236
 ,6126
 ,5691
 ,4908
 ,3465
 ,2918

Average Partial Correlations

	squared	power4
,0000	,0805	,0160
1,0000	,0504	,0055
2,0000	,0421	,0069
3,0000	,0632	,0086
4,0000	,0891	,0278
5,0000	,1350	,0616
6,0000	,1944	,0944
7,0000	,2694	,1512
8,0000	,4904	,3798
9,0000	1,0000	1,0000

The smallest average squared partial correlation is ,0421

The smallest average 4rth power partial correlation is ,0055

The Number of Components According to the Original (1976) MAP Test is 2

The Number of Components According to the Revised (2000) MAP Test is 1

----- END MATRIX -----

3.	What is your maximum weight gain in a week	.473	.639
4.	In a typical week, how much does your weight fluctuate?	.452	.579
5.	Would a weight fluctuation of 2.3 kg affect the way you live your life?	.617	-.291
6.	Do you eat sensibly in front of others and splurge alone?	.347	-.261
7.	Do you give too much time and thought to food?	.676	-.333
8.	Do you have feelings of guilt after overeating?	.656	-.344
9.	How conscious are you of what you are eating?	.778	-.368
10.	How many kgs over your desired weight were you at your maximum weight?	.598	.510

APPENDIX 4: Component Matrix-Revised Restraint Scale