

**SELF-OBJECTIFICATION AND MUSCLE DYSMORPHIA AMONG AFRICAN
MALES: SELF-ESTEEM AND AFROCENTRIC IDENTIFICATION AS MEDIATORS**

BY

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DISSERTATION

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DECLARATION

I, MAHLATSE MALEPE, declare that SELF-OBJECTIFICATION AND MUSCLE DYSMORPHIA AMONG AFRICAN MALES: SELF-ESTEEM AND AFROCENTRIC IDENTIFICATION AS MEDIATORS is my own work and that all the sources I have used or quoted have been indicated and acknowledged through complete references and that this work has not been submitted before for any other degree at any other institution.

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Full names

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Signature

.....

Date

Dedication

To my mother Ritta Thokozile Malepe the pillar of our home, I would like to thank you for the unconditional support throughout my academic journey you have never lost hope in me I pray may the Lord multiplies your blessings.

To my son, Mohau Malepe, may this be a symbol that you can achieve whatever you want in life if you believe in yourself and work hard.

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ABSTRACT

Body image concerns have been a worldwide issue in females and recently there is rising literature on male body dissatisfaction and self-objectification. The present study used a quantitative method to explore the possible mediator role of self-esteem and ethnic identity in the relationship between self-objectification and muscle dysmorphia. A purposive sample (N = 348) of male undergraduates at the University of Limpopo was used and data was collected using a structured and composite questionnaire within a correlation research design. Correlation analysis found a statistically significant relationship between self-objectification and muscle dysmorphia ($p < .05$), but there was no relationship between ethnic identification and muscle dysmorphia ($p > .05$). Mediation analysis showed that self-esteem does mediate the association between self-objectification and muscle dysmorphia ($p < .05$)

Key words: Self-objectification, muscle dysmorphia, self-esteem, and Africentric identification

TABLE OF CONTENTS

CONTENT	PAGES
Declaration.....	i
Dedication.....	ii
Acknowledgments.....	iii
Abstract.....	v
Table of contents.....	vi
List of tables.....	vii
List of figures.....	viii
List of abbreviations	x

CHAPTER ONE: OVERVIEW OF THE STUDY

1.1	General introduction.....	1
1.2	Problem statement.....	3
1.3	Aim of the study	4
1.4	Objectives of the study.....	4
1.5	Hypotheses of the study	4
1.6	Significance of the study	4
1.7	Definition of concepts	5

CONTENT**PAGES**

1.7.1	Self-objectification	5
1.7.2	Muscle dysmorphia	5
1.7.3	Self-esteem	5
1.7.4	Ethnic identity	6
1.7.5	Drive for muscularity	6

CHAPTER TWO: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1	Theoretical framework	7
2.1.1	Social comparison theory.....	7
2.1.2	Self-objectification	8
2.2	Literature review	9
2.2.1	Self-objectification and the development of muscle dysmorphia	9
2.2.2	Factors associated with muscle dysmorphia	11
2.2.2.1	Social media	11
2.2.2.2	Family/ peers	11
2.2.2.3	The drive for muscularity	12
2.2.2.4	Body dissatisfaction	13
2.2.2.5	Perfectionism	13
2.2.2.6	Internalisation of the muscular ideal	14
2.2.2.7	Body mass	14
2.2.2.8	Sports participation	15
2.2.2.9	Body schema and distortion	16
2.2.3	Muscle dysmorphic symptomology	17

CONTENT	PAGES
2.2.3.1 Body checking behaviours	17
2.2.3.2 Steroid use	18
2.2.3.3 Exercise addiction	18
2.2.3.4 Restrictive dieting	19
2.2.4 Self-esteem as a mediator between self-objectification and muscle dysmorphia	19
2.2.5 Afrocentric identification as a mediator between self-objectification and muscle dysmorphia	22
2.2.6 Prevalence of muscle dysmorphia	24
 <u>CHAPTER THREE: RESEARCH METHODOLOGY</u>	
3.1 Research design	26
3.2 Sample population	26
3.3 Procedure	26
3.4 Instruments	26
3.4.1 Biographical data	27
3.4.2 Internalisation: muscular	27
3.4.3 Muscle dysmorphic disorder inventory	27
3.4.4 Rosenberg self-esteem scale	28
3.4.5 The drive for muscularity scale	28
3.4.6 Setho/Isithu ethnic identification index	29
 <u>CHAPTER FOUR: RESULTS</u>	
4.1 Analysis of data	30
4.2 Demographical variables of participants	30
4.3 Correlation analysis of the main variables	33

CONTENT

PAGES

4.4	The mediating role of self-esteem in the association between self-objectification and muscle dysmorphia	35
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CHAPTER FIVE: DISCUSSION

5.1	Introduction	38
5.2	The association between self-objectification and muscle dysmorphia will be mediated by self-esteem and Afrocentric identification	38
5.2.1	The mediating role of Afrocentric identification	39
5.2.2	The mediating role of self-esteem.....	41
5.3	Conclusion	42
5.4	Limitations of the study	43
5.5	Recommendations	43
	References	44

LIST OF TABLES

Table 1:	Description of the sample	31
Table 2:	Correlational analysis	34
Table 3:	Direct and indirect effects of self-objectification, muscle dysmorphia, and self-esteem	37

LIST OF FIGURES

Figure 1:	Mediational analysis	36
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LIST OF ABBREVIATIONS

MDDI:	Muscle dysmorphic disorder inventory
MD:	Muscle dysmorphia
BDD:	Body dysmorphic disorder

CONTENT**PAGES**

OCD: Obsessive-compulsive disorder

AAS Anabolic androgenic steroid

U.S: United states

CHAPTER ONE: OVERVIEW OF THE STUDY

1. Introduction

Body image is described as how an individual perceives, thinks, or feels about his or her body appearance which may be positive or negative and it is usually affected by sociodemographic and environmental factors (Alharballeh & Dodeen, 2021). An individual can either be satisfied or dissatisfied with his/her body and may engage in activities to hide or change the body without regard to health implications, it may result in body image disturbances which are caused by feeling inadequate in comparison with the ideal body (Rilwan et al., 2021).

Studies recently have shown that men are similar to women in terms of body disturbance as they are dissatisfied with some aspects of their bodies however body image disturbance among men is more complex as men aspire to be either thinner or leaner whereas others would like a larger body size which includes muscles (Bergstrom & Neighbors, 2006), even though males show high levels of body satisfaction than females the society presents men with a more muscular and unattainable masculine ideal body image of which men who try to fit the muscular ideal become vulnerable to certain complications and risks such as muscle dysmorphia(MD) (Coats, 2015).

Nowadays, it is not surprising that men report higher levels of body dissatisfaction because of their inability to meet the ideal body type. They have increasingly been pressured to have a muscular and lean body which is promoted by the media, most authors showed that body dissatisfaction in men tends to reach a similar level as those of women as it is frequently related to body image and eating behaviours (Bégin et al., 2019a). Universities and college counseling centers and health services have reported an increase in cases of men with eating disorders and a rise in the percentage of men who are dissatisfied with their bodies and presenting with the manifestations of muscle dysmorphia, low-self-esteem, shame, decreased social functioning and anxiety related to appearance (Davey & Bishop, 2006). It has been proposed that the most important variables leading to muscle dysmorphia are a distortion of body self-perception, dissatisfaction with one's body, and internalised body ideal

along with perfectionism, negative affect, low self-esteem, and the media (Baghurst & Kissinger, 2009).

Factors such as body dissatisfaction, low-self-esteem, and media are influencers of muscle dysmorphia (Grieve & Helmick, 2008) and research also shows that men who struggle with body image have a problem with the drive for muscularity (desire to be more muscular) which leads to muscle dysmorphia (Lacey, 2017). Men who perceive a discrepancy between a mesomorphic ideal and their actual bodies may experience body dissatisfaction which is strongly associated with the desire to increase muscularity and might develop muscle dysmorphia (Dryer et al., 2016).

Muscle dysmorphia (MD) is a mental and behavioural disorder whereby individuals see themselves as insufficiently large and muscular, while they have bigger muscles and are leaner than average people which is also known as “bigorexia” or “reverse anorexia” (Santos Filho et al., 2016). Men who pathologically pursue hyper-muscularity consistently endorse a similar psychological profile as eating disordered patients and findings have indicated that men with muscle dysmorphia adhere to a rigid and unbalanced diet plan which consists of high protein and low fat and may cause feelings of distress if not adhered to (Murray et al., 2010).

The classification of muscle dysmorphia is a continuous subject of debate as the DSM-5 classified the condition as a research diagnosis within the obsessive-compulsive spectrum as a specifier of body dysmorphic disorder whereas the ICD-10 classified it under the somatoform disorder as a subtype of body dysmorphic disorder (Strobel et al., 2020). Researchers argued that muscle dysmorphia should be classified as an obsessive-compulsive spectrum disorder as achieving muscularity and body leanness becomes an obsession and the obsessive-compulsive disorder (OCD) is characterised by obsessions or compulsions that serve enough to be time-consuming or cause marked distress or significant impairment (Nieuwoudt et al., 2012). In the DSM-5 muscle dysmorphia was added as a specifier to the body dysmorphic disorder (BDD) diagnostic criteria, as BDD is characterised by preoccupation with a perceived defect in a physical experience that leads to substantial functional impairments

(Foster et al., 2015), previous research stated that body image disturbance is central to MD symptomology in perceptual, cognitive, emotional and behavioural terms thus MD is a pathological subtype of body dysmorphic disorder (Diehl, 2016).

1.2 Problem statement

Literature based on body image disturbances has been focusing on females with only limited research investigation males, research has shown that men are becoming more concerned with their muscularity to the extent that some are experiencing marked impairment in daily functioning (Heath et al., 2016). Over the last twenty years, the concept of the male body ideal has gone through significant changes as it has shifted away from one with excessive body fat to an increasingly muscular physique and individuals who see themselves as small and weak even when this is not true suffer from muscle dysmorphia (Sokolova et al., 2013).

When muscle dysmorphia was first included in the DSM-III it was described as a sub-type of body dysmorphic disorder as the two conditions had several aspects in common, recently many studies have been conducted to enlarge knowledge about muscle dysmorphia along with the necessity of review of BDD in the DSM-V (Santarnecchi & Dèttore, 2012). The effects of objectification on men have been studied in few studies (Rollero & Tartaglia, 2016) and according to research men that have higher scores on the measurement of self-objectification indicate a desire for the drive for muscularity, muscle dysmorphic symptoms, and a greater internalisation of muscular media ideals (Heath et al., 2016). However, It is not clear if the same observation can be made among African males in Limpopo, it is a different context from the studies that are normally conducted namely countries in the northern hemisphere.

1.3 Aim of the study

This study aims to investigate the relationship between self-objectification and muscle dysmorphia among African males through the mediational roles of self-esteem and Afrocentric identification.

1.4 Objectives

- To investigate the association between self-objectification and muscle dysmorphia among African males.
- To examine the mediational roles of self-esteem and Afrocentric identification in the relationship between self-objectification and muscle dysmorphia.

1.5 Hypothesis

The association between self-objectification and muscle dysmorphia will be mediated by self-esteem and Afrocentric identification.

1.6 Significance of the study

Due to media men, these days have pressure to become more muscular and leaner (Bégin et al., 2019b) and the increased desire for the drive for muscularity leads to a disorder that is marked by the preoccupation of one's physical appearance and muscularity which includes attitudes and behaviour for an increased body mass termed muscle dysmorphia (Collis et al., 2016).

In the past muscle, dysmorphia has been termed "reverse anorexia" as it shares similar conditions with eating disorders and has been placed as a characteristic of body dysmorphic disorder, and research has stated that there is no exact cause of muscle dysmorphia. The significance of this study is to bring awareness to the African community about self-objectification as it has recently been on the rise among males, as limited research has been done on this specific group regarding self-objectification. Secondly to contribute to the knowledge or literature about muscle dysmorphia from an African perspective for the African society to have a clear understanding of the disorder and hopefully to be more open and seek professional help lastly to help professionals to diagnosis the relevant disorder as research has shown that muscle dysmorphia has similarities with eating disorders, therefore, individuals may get the correct treatment.

1.7 Definition of concepts

1.7.1 *Self- Objectification*

The objectification theory states that women often are looked at as objects by society with a sexual focus being placed on their bodies rather than on their abilities, objectification experiences socialises women to internalise an observer perspective upon their body thus this process is termed self-objectification as it occurs when women think and treat themselves as objects to be regarded and evaluated based on appearance (Rollero & De Piccoli, 2017).

1.7.2 *Muscle Dysmorphia*

Muscle dysmorphia is a condition characterised by a preoccupation with the belief that one's body is insufficiently muscular and often marked by a relentless pursuit of a hyper-muscular appearance (Cunningham et al., 2017). Muscle dysmorphia is also characterised by an intense drive for muscularity while maintaining a low body fat percentage and it has been included in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders as a specifier of body dysmorphic disorder (Christopher et al., 2018).

1.7.3 *Self-Esteem*

Self-esteem is defined as a global barometer of self-evaluation involving cognitive appraisals about general self-worth and affective experiences of the self that are linked to these global appraisals (Abdel-khalek, 2016).

1.7.4 *Ethnic identity*

Ethnic identity is defined as self-identification as a group member, a sense of belonging, and an attitude towards the group (Kuang & Nishikawa, 2021).

1.7.5 *Drive for Muscularity*

Drive for muscularity is defined as an individual's motivation to become more muscular as it was coined by McCreary and Sasse (Chaba et al., 2019).

1.7.6 *Body Dissatisfaction*

Body dissatisfaction is defined as the negative thoughts and feelings of one's body which is considered the most important global measure of stress related to appearance (Quittkat et al., 2019).

CHAPTER TWO: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Theoretical Framework

2.1.1 *Social comparison theory*

Social comparison theory developed by Festinger (1954) is a widely used theoretical framework for understanding how individuals appraise and evaluate themselves, according to this theory humans have an innate drive to evaluate their own opinions and abilities and it has proven to be a useful tool in understanding how humans gain self-knowledge in several domains (Schaefer & Thompson, 2014). Research suggests that peer comparison is the most influential kind of social comparison as this is based on the original conceptualisation of social comparison theory which posits that people are more likely to make comparisons to similar individuals since these comparisons are more relevant (Saiphoo & Vahedi, 2019).

According to the social comparison theory (Festinger, 1954), there are two types of comparisons:

- (a) Upward comparison: Individuals compare themselves to others who are superior in some way
- (b) Downward comparison: Individuals compare themselves to others who are inferior in some way (Woodruff, 2012).

The social comparison theory, first proposed by Festinger (1954), offers a useful framework to understand the potentially harmful effects of objectification of the self and others (Lindner et al., 2012). Social comparison theory has received stronger empirical support compared to other theories and it is considered superior in explaining experiences of body dissatisfaction (Taniguchi & Ebesu Hubbard, 2019). Men with body image concerns may compare themselves with other men to learn more about the ideal shape of their bodies (Schneider et al., 2017b).

General research about social comparison theory suggests that engaging in upward comparisons leads one to feel worse about oneself and downward

comparison leads one to feel better about oneself (Lindner et al., 2012). Social comparison theory offers a possible explanation for the predisposition of some body dissatisfied men toward the drive for muscularity (Bucchianeri, Michaela M. Serrano & Pastula, 2014).

Social comparison theory also suggests that exposure to the image of a body that is either thinner or more muscular than they believe themselves to be would represent an aspirational stimulus which should be the cue for upward social comparisons (Thornborrow et al., 2020).

2.1.2 *Self-objectification theory*

According to Immanuel Kant (1797) objectification involves the lowering of a person, from a being with humanity to a status of an object (Mckay, 2013), another theorist such as Martha Nussbaum identified positive and negative aspects of objectification and also identified the most problematic aspect of objectification is the dehumanising of a person through objectification and has also identified seven ways in which objectification occurs; (a) instrumentality, (b) denial of autonomy, (c) inertness, (d) fungibility, (e) violability, (f) ownership and (g) denial of subjectivity (Burns, 2018).

The central belief of the objectification theory is that through the pervasiveness of objectification women and girls are gradually socialised to adopt the observer's perspective of their physical self (Tiggemann & Slater, 2015) and then begin to treat themselves as an object to be looked at and evaluate themselves based on appearance, this process is termed self-objectification (Tiggemann & Kuring, 2004).

Self-objectification is defined as the adoption of a third-person perspective on the self (Calogero, 2012), it involves three steps (a) the internalisation of the media or appearance ideals, (b) valuing appearance over competence and (c) running continuous body surveillance and the key step in the process is the internalisation which might lead to higher levels of self-objectification and body surveillance (Mirucka & Kisielewska, 2021).

2.2 Literature review

2.2.1 *Self-objectification and the development of muscle dysmorphic symptoms*

The most important part of self-objectification is the internalisation of the objectification process which causes harmful perspectives on the self as one may become self-conscious and engage in habitual monitoring of their physical self (Shelby, 2020). Traditional assessments of body dissatisfaction have mainly evaluated concerns about being overweight and neglecting dissatisfaction with muscle tone which results in the underestimation of body image dissatisfaction in males (Grossbard et al., 2017). Previous research has shown that males report lower self-objectification than females and young male adults are becoming more worried about their physical appearance (Rollero & De Piccoli, 2017).

In today's society, men are facing social pressures to have a muscular and lean body and they present more muscularity-orientated thoughts and behaviours than women as men's preoccupations focus mainly on developing a more muscular body shape as well as physical strength (Christopher et al., 2018). Studies have found that exposure to muscular images in the media was associated with negative body image outcomes and previous studies noted that male body dissatisfaction generally results in either the drive for thinness which may lead to anorexia nervosa or the drive for muscularity which may result in muscle dysmorphia (Lennon & Johnson, 2021).

The preoccupation with the desire to have a muscular body leads to compulsions such as spending long hours in the gym exercising, poor eating habits (Jones, 2017), supplement use, reassurance seeking, and checking behaviours which are muscle dysmorphic symptoms (Cunningham et al., 2017). Muscle dysmorphia is defined as a preoccupation with muscularity where an individual sees themselves as not being muscular enough or too small even though in most cases the individuals are above average in muscle size (Sandgren & Lavalley, 2018). Originally muscle dysmorphia was termed "reverse anorexia" as it included behavioural and cognitive similarities with anorexia nervosa (Murray et al., 2012), the three criteria around muscle

dysmorphia were supposed to be structured suggesting that individuals were (a) worried about the idea that their body does not have sufficient muscles (b) generating significant clinical malaise (c) and that their primary concern, as well as their behaviour, could revolve around the idea of not being muscular enough (Olave et al., 2021).

The DSM-V diagnostic criteria of muscle dysmorphia are:

- A.** Preoccupation with the idea that one's body is not sufficiently lean and muscular. Characteristic associated behaviours include long hours of lifting weights and excessive attention to diet.
- B.** The preoccupation is manifested by at least two of the following four criteria:
 - i.** The individual frequently gives up important social, occupational, or recreational activities because of a compulsive need to maintain his or her workout and diet schedule.
 - ii.** The individual avoids situations where his or her body is exposed to others or endures such situations only with marked distress or intense anxiety.
 - iii.** The preoccupation about the inadequacy of body size or musculature causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
 - iv.** The individual continues to work out, diet, or use ergogenic (performance-enhancing) substances despite knowledge of adverse physical or psychological consequences.
- C.** The primary focus of the preoccupation and behaviours is on being too small or inadequately muscular, as distinguished from fear of being fat as in anorexia nervosa, or a primary preoccupation only with other aspects of appearance as in other forms of body dysmorphic disorder (Cunningham et al., 2017).

2.2.2 *Factors associated with the development of Muscle dysmorphia*

*** Social media**

Researchers have started to investigate whether social media is not related to various psychological variables, as it has repeatedly been shown that traditional media such as television and magazines are linked to body image disturbances in both genders (Saiphoo & Vahedi, 2019). There are various features of social media that differ from traditional media that contribute to body image concerns as research has shown that spending more time on Facebook is associated with higher levels of body dissatisfaction (Fardouly & Vartanian, 2016).

The media displays the ideal male body as being muscular resulting in men being bombarded with muscularity as the ideal body type and often internalise the message and develop psychological issues such as muscle dysmorphia (Reynolds, 2010). Objectification of men has been through the medium of media which presents bodies that are headless, unclothed, or in a sexually suggestive position thus increasing the internalisation of ideals and lowering self-esteem (Bautista, 2017).

Findings from Haddad's (2022) study indicated that adolescents who use social media have an increased odd of body dissatisfaction, a predisposition that could lead to the development of body dysmorphia. Boys are found to perceive social media as a positive motivating influence on their bodies while girls tend to report social media as more negative on their bodies although a meta-analysis states that social media influence on body image is the same for girls and boys (Mahon et al., 2021).

*** Family/Peers**

Parents are the first source of socialisation and pressure coming from family has a significant impact on the internalisation of the ideal body type, even peers and friends have an influence on body image and recent studies indicated that partners exert greater pressure on their significant others to have an ideal body (Speranza et al., 2022).

Evidence suggested that parents' and peers' appearance and weight-related comments are associated with adolescents' body satisfaction, unhealthy weight-controlling behaviours, and disordered eating symptoms as according to the objectification theory continuous exposure to sexual objectification from others may lead to the internalisation of beauty ideals (Barbeau et al., 2022).

Previous research on the role of peers in self-objectification has been investigated in various ways and one study on face-to-face interactions has found that Australian adolescents ages 12-16 years who experienced peer teasing have reported higher levels of self-objectification and body image concerns (Daniels et al., 2020). Studies on appearance teasing indicated that 44.7 % of men reported being teased about their weight and appearance and another study indicated that 25% of college men reported speaking to friends frequently about their body and the desire to be more muscular, these findings suggest that men are facing increasing social pressure to achieve a more muscular ideal body (Lin & DeCusati, 2016).

*** Drive for Muscularity**

The drive for muscularity (DFM) is defined as attitudinal preoccupations with muscle mass and behavioural activities to enhance muscularity as the drive for muscularity is associated with dangerous strategies to gain muscle as well as various mental health concerns (Cheng et al., 2015). A Study assessing sociocultural influences on body image concerns and body change strategies among girls and boys in Australia has reported that boys scored higher on measures assessing strategies to increase muscle (Sai et al., 2020).

McCreary and Sasse indicated that the DFM might have negative psychological effects on men in a similar manner that the drive for thinness has on females (Beau J Diehl, 2015). Many men have developed a drive for muscularity which is manifested in several ways such as bodybuilding, restrictive eating, and supplement use and the adoption of the muscular ideal which is presented in the media has influenced the development of muscle dysmorphia (Grieve & Helmick, 2008).

* **Body dissatisfaction**

Negative thoughts and feelings about one's body being defined as body dissatisfaction (Quittkat et al., 2019) and it is a psychological symptom caused by a self-image that deviates from an ideal perception of the body which can begin at ages before puberty (Navarro et al., 2021). Body dissatisfaction is largely influenced by sociocultural factors and the western lifestyle also plays a role in the development of body dissatisfaction in all cultures as exposure to the western lifestyle through the media has permeated most non-western societies (Rivera-ochoa et al., 2021).

A previous longitudinal study found that there were high levels of body dissatisfaction in females than men and higher levels in younger individuals than adults while another study reported that 90% of United State male students described themselves as being dissatisfied with their body in regards to muscularity (Quittkat et al., 2019). A Mann-Whitney U test was conducted in a study by Feerick (2021) and it was found that there is a significant difference between females and males concerning the level of body dissatisfaction with females having higher levels than males as prior studies indicated that men are happier with their bodies.

* **Perfectionism**

Perfectionism is a multidimensional and multifaceted personality disposition characterised by striving for flawlessness and setting exceedingly high standards (Rica et al., 2022). Perfectionism does make an individual develop body image dissatisfaction and unhealthy behaviour by intensifying perceptions of specific body-related flaws (Hicks et al., 2022), Rasooli & Lavasani (2011) stated that there is a relationship between perfectionism and body image concerns as perfectionism is indicated by having high levels of standards in all life domains.

Previous researchers indicated that body dissatisfaction in combination with maladaptive perfectionism is a strong risk factor for muscle dysmorphia as individuals who scored high on perfectionism scales are unsatisfied with their bodies (Zarei, 2020). A study by Nonahal et al (2014) found that there is a

significant positive relationship between perfectionism and muscle dysmorphia symptoms as previous studies have revealed that perfectionism can predict muscle dysmorphia because men who are perfectionists and prefer a muscular body may have characteristics behaviours that imply muscle dysmorphia traits.

*** Internalisation of the muscular ideal**

Internalisation occurs when an individual cognitively accepts the societal ideals of attractiveness and engages in behaviours to change their body shape, these ideals can be reinforced by socialisation agents such as the media, family, and peers (Beecroft, 2019). Internalisation of the ideal body type has been a major risk factor in the development of body image disturbances as exposure to the pursuit of thinness in girls and muscularity in boys when they internalise the idealised body type and adopts it as their standard they become at risk for body dissatisfaction and a wide range of disordered eating patterns (Flament et al., 2012).

The muscular ideal in men has been associated with social, physical, and psychological benefits as internalisation of the muscular ideal is integrated into one's identity and it is related to the drive for muscularity or the desire to build a muscular physique (Tod & Markland, 2016). In a sample of U.S men the internalisation of a specific body ideal has been found to directly predict muscularity dissatisfaction and body changing behaviours which highlights that internalisation is an important factor in male body dissatisfaction and that it is not exclusive to women (Naseem, 2015).

*** Body mass**

Body mass index (BMI) is indicated as a biological risk factor for muscle dysmorphia symptomology, it provides an estimation of an individual's body fat based on height and weight it is categorised into four groups (a) scores of 18.4 or below indicate that an individual is underweight,(b) scores of 18.5 to 24.9 indicate that an individual is of normal weight,(c) scores from 25 to 29.9 indicated that an individual is overweight and (d) score from 30.0 and above indicate that an individual is obese (Woodruff, 2012). Body mass is indicated as the most consistent biological factor correlated with body dissatisfaction

although the relation differs across genders as boys have reported feeling dissatisfied with their bodies when they are either below or above average weight and to be most satisfied when they are average weight (Mäkinen et al., 2012).

Research has stated that there is a strong association between BMI and body dissatisfaction as it was found among male adolescents that a lower BMI predicted higher importance on muscularity (Babusa, 2013), individual's body mass has also emerged as a central influence in the development of body dissatisfaction and cross-sectional and longitudinal research has empirically evidenced a positive correlation between elevated levels of body mass and body dissatisfaction in adolescent males and females (Lawler & Nixon, 2011). It was also reported in other studies that body dissatisfaction in college men was strongly associated with overweight BMIs compared to normal weight and underweight BMIs (Sandgren et al., 2019).

*** Sports participation**

Athletes share many psychological factors such as competitiveness, a high need for control, perfectionistic tendencies or steroid use that could increase the likelihood of the development of muscle dysmorphia (Grieve, 2007). Sport participation has been indicated to be the most salient risk factor involving body image concerns as participation in sports such as bodybuilding and football, where greater muscle mass and body size are important are at risk for the development of muscle dysmorphia (Lowe et al., 2018).

Athletes who engage in appearance-related resistance training might be at an increased risk for the development of muscles dysmorphia as many studies have underlined that bodybuilders display higher MD prevalence rates and more MD features than other resistance training athletes such as weightlifters (Cerea et al., 2018). Athletes are more critical of their bodies and weight than recreational exercisers or non-exercisers as they stress more on muscularity, leanness, and aesthetics which may be predispositions of muscle dysmorphia (Leone et al., 2005). Grieve feels that sports participation directly influences a

mesomorphic body and ideal body internalisation as various sports within the competitive setting emphasise a distorted weight-to-power ratio (Hale, 2008).

* **Body schema and body distortion**

Self-schemas can be conceptualised as a cognitive aspect of body image as they are conveyed from past experiences and organise self-related information processing thus an individual whose appearance is important develops a more complex network of knowledge concerning appearance and will be more prone to information processing biases related to body image self-schemas (Schneider et al., 2017a), Piaget's theory stipulated that childhood attitudes about body image are organised into body schemas which are based on social and cultural learning experiences (e.g., family, peer pressure and media influences) and individuals who were teased about their weight and appearance are known to be at higher risk for developing maladaptive behaviours during developmental transitions such as adolescence (Robin Leichtman & Sarah Toman, 2017).

Cognitive theories on body dissatisfaction suggest that schemas related to appearance influence the processing of information about body image which is accompanied by cognitive biases such as selective attention to processing body image information in the environment cognitive biases play an important role in the aetiology of body dissatisfaction and associated mental health concerns (Rodgers & DuBois, 2016), the objectification theory states that self-objectification disrupts attention and interrupt cognitive resources necessary for logical reasoning, information processing, etc as when individuals are in a state of self-objectification they are distracted by thoughts about their appearance thereby limiting the amount of cognitive ability for a task at hand (Baker et al., 2019).

Muscle dysmorphia is characterised by a preoccupation and obsession with the idea that one is insufficiently big and muscular and therefore, linked to body image distortion which leads to obsessive thoughts and intense anxiety about appearance previous research reported that men with MD were found to think about their lack of muscularity for more than 5 hours per day (Babusa, 2013).

2.2.3 Muscle dysmorphia Symptomology

A conceptual model of muscle dysmorphia developed by Lantz, Rhea, and Mayhew (2001) stated that six behavioural characteristics developed from muscle dysmorphia termed; body size, dietary constraints, physique protection, supplement use, pharmacological abuse, and exercise dependence (Davies et al., 2011).

*** Body checking behaviour**

Results from a scientific investigation have shown that the drive for muscularity is closely related to body-checking behaviours such as comparing one's body with another, checking the size of one's muscles in the mirror, and asking others to confirm the rigidity of muscles thus body checking behaviours may predispose males to the onset of muscle dysmorphia (de Sousa Fortes et al., 2017).

Compulsive mirror checking is driven by obsessive thoughts of being or becoming too small in body size or musculature which leads to the intense urge to body check as previous research found that men with muscle dysmorphia significantly reported more mirror checking than normal bodybuilders (Babusa et al., 2015). Body-checking behaviours have been incorporated into the descriptions of eating disorders, muscle dysmorphia, and body dysmorphic disorder, and studies indicated that body-checking is frequently endorsed and associated with body dissatisfaction, and lower self-esteem (Catherine Walker et al., 2009).

*** Steroid use**

Anabolic-androgenic steroid (AAS) use is a public health problem in many countries and AAS male users often report body-image concerns as they feel that they are not big enough (Kanayama et al., 2006). Individuals who are at high risk for using anabolic-androgenic steroids appear to have muscle dysmorphia, as these types of steroids are synthetic derivatives of testosterone and have been demonstrated to build muscle tissue in humans at a high rate

(Cunningham et al., 2017). AAS use is common among athletes and bodybuilders to achieve a muscular body and increase athletic performance however some men have reported that the changes in their appearance due to AAS allows them to feel more confident even though it is linked with psychological disorders such as muscle dysmorphia (Brewster et al., 2017).

A previous study that studied the prevalence of muscle dysmorphia and steroid use found that there was no difference in former and recent steroid users regarding the experience of muscle dysmorphia and interview findings indicated that former users were susceptible to muscle dysmorphia characteristics (Sylvania, 2017). Prior studies found that AAS user score higher than non-user on muscle dysmorphia symptomology as studies of men's body image concerns have developed over time due to the pressure to gain muscularity suggesting that a negative body image may not be a consequence of AAS but a bi-product of the competitive nature of bodybuilding and muscle dysmorphia (Greenway & Price, 2020a)

*** Exercise addiction**

Exercise addiction or compulsive exercise is one of the most observable symptoms in individuals with muscle dysmorphia even though it might be difficult to identify as many individuals exercise regularly and determining when it's addiction is challenging (Garver, 2022). Compulsive exercise is described as a highly driven and rigid urge to exercise combined with a perceived inability to stop exercising and has been highlighted in the original diagnostic criteria for muscle dysmorphia as it was found that men with muscle dysmorphia reported significantly greater compulsive exercise than male gym-goers without muscle dysmorphia (Martenstyn et al., 2022).

Individuals who might engage in inappropriate/excessive exercise with the focus to change their physical appearance may be involved in a routine of physical activities of high frequency and duration which leads to the impairment of occupational opportunities and social relationships as it is in the case of patients with muscle dysmorphia (Almeida et al., 2019).

* Restrictive eating

Lastly, muscle dysmorphia was originally referred to as reverse anorexia as it has pathological eating patterns and previous research found that dietary strategies with individuals with muscle dysmorphia are hyper-protein and hypolipidemic diets to increase muscle mass and reduce body fat (Rickard, 2014). Muscle dysmorphia is characterised by disordered eating behaviours aimed at achieving muscular hypertrophy and a low degree of body fat moreover muscularity-oriented disordered eating behaviours may be equally as prevalent in men as eating disorders in women (Klimek et al., 2018). Alternative eating behaviours such as cyclical ketogenic diets describe the pursuit of a muscular ideal as males adapt to strict food regimes to gain weight or muscles (Jonstang, 2009).

2.2.4 *Self-esteem as a mediator between self-objectification and muscle dysmorphia*

Body image issues in men have received less attention and are not well understood and it is evident that men also have body image concerns negative body image issues in both genders are significant as it is associated with reduced self-esteem and increased distress (Ali & Mahler, 2018). Rosenberg (1965) defined self-esteem as a positive or negative attitude towards a particular object, namely the self (Westaway et al., 2015). Branden describes self-esteem according to the following: self-esteem is a fundamental human need; it is part of the process of life, and it is indispensable to normal and healthy self-development, self-esteem is an automatic and unavoidable consequence of the individual's choices, self-esteem is a part of or a background to individual's thoughts, feelings, and actions (Minev et al., 2018).

Considering past studies it has been seen that self-esteem has a mediating role among various variables as individuals with higher levels of self-esteem are positively correlated with life satisfaction and psychological health therefore as stated in previous studies self-esteem has an intermediary role among many variables (Rica et al., 2022). High self-esteem is important for the upkeep of mental health while low self-esteem is considered a risk factor for

psychopathology and has been positively related to mental health disorders (Mijic, 2022).

Individuals who have positive appraisals of their bodies have a positive evaluation of their bodies in general which is associated with enhanced general self-esteem while on the contrary individuals who feel their bodies do not look or function well have a poorer evaluation of their bodies and may experience decreased self-esteem thus indicates that self-esteem is dependent on body form and function (Parent & Bradstreet, 2017), also previous research showed that a decrease in self-esteem contributes to a poorer body image which was found in younger populations that body image and self-esteem are positively related (Green & Pritchard, 2003).

Research has identified various domains in which people commonly base their self-worth such as; physical appearance, academic competence, and approval from generalised others (Adams et al., 2017). Contingent self-worth refers to what individuals believe they must do or be to have value and worth as a person (Noser & Zeigler-hill, 2014). The contingencies of self-worth theory stipulate that global self-esteem has an important impact on body satisfaction as poor self-esteem leads to body image dissatisfaction thus previous research has reported that self-esteem and body dissatisfaction variables such as muscle displeasure and belittlement were negatively correlated (Zarei, 2020) and previous research showed that appearance-contingent self-worth is associated with greater body comparison and less body appreciation (Modica, 2019).

Researchers have stipulated that contingent self-esteem should be considered in the research of muscle dysmorphia as it was found that high levels of contingent self-esteem in men were associated with greater aspiration for muscularity (Reynolds, 2010). Self-esteem varies with the changes in physical self-perception, among males and females university students' self-esteem has been repeatedly shown to be associated with aspects of physical appearance (Ciccolo et al., 2016) and in

Most individual's self-esteem is partially related to physical appearance for both genders as those who view their bodies more positively exhibit higher levels of

self-esteem and it appears that men and women who report low levels of self-esteem will be at risk for developing eating disorders in women and muscle dysmorphia in men (Lamanna et al., 2010). Previous research showed that appearance-contingent self-worth is associated with greater body comparison and less body appreciation (Modica, 2019).

A large body of research has explored the relationship between self-esteem and muscularity dissatisfaction in males and in another study it has been reported that self-esteem is significantly negatively correlated with muscularity belittlement (Chaney, 2008). Previous studies suggest that the association between low self-esteem and body dysmorphic disorders is not straightforward (Ahmadpanah et al., 2019).

However low self-esteem is a crucial factor in the development and maintenance of muscle dysmorphia as individuals with muscle dysmorphia may engage in appearance-improving behaviours to enhance their self-esteem (Cerea et al., 2018). Whilst little research has been done to investigate the relationship between self-esteem and objectification theory (Aumend, 2007).

2.2.5 *Afrocentric identification's mediator role in the association between self-objectification and muscle dysmorphia*

The term "Afrocentric identification" will be used in this study to refer to ethnic identity which is defined as part of a person's self-concept derived from one's knowledge of belonging to an ethnic group (Stowell, 2015). The role of culture in objectification processes has been emphasised since the work of Fredrickson and Roberts (1997) and few studies have addressed the role of cultural differences (Gattino et al., 2018). Research has highlighted that Afrocentric identification is important for identity development as the formation of ethnic identity proposes that individuals resolve issues and feelings about themselves during development and it is also important for understanding psychological adjustment in minorities (Baugh et al., 2011).

Body dissatisfaction and related issues were confined to affluent white women in the U.S it was not until the early 1990s that it was generally recognised that body dissatisfaction and eating disorders were found in other countries although

researchers had to do cross-cultural studies before they could discover populations that have greater body dissatisfaction than the U.S (Forbes et al., 2012). A review by Holmqvist & Frisén (2010) stipulated that the cultural environment in which we live highly influences the level of body dissatisfaction that we experience and that it is important to study body dissatisfaction across cultures to identify ethnic groups that are struggling, to provide them with treatments and prevention also to enhance the understanding of body dissatisfaction.

The socio-cultural theory suggests that the notion of ideal body size is established and enforced by the culture of a specific society and individuals may feel pressured to conform to the cultural ideals about body size as a result they may engage in behaviours that meet the cultural standards (Addo et al., 2019). It appears that people in traditional nations are more prone to self-objectification as previous research indicated that self-objectification is heavily influenced by culture (Loughnan et al., 2015).

Previous studies have shown that Afrocentric identification has a mediational relationship with self-objectification and undesirable consequences such as health risk behaviours (Mamabolo, 2019). Some research has suggested that White individuals continue to report higher levels of negative body image concerns while other findings indicate that body image concerns are equally high across ethnic groups (Olson et al., 2020). Afrocentric ideals of beauty involve uniqueness and creativity thus freeing black women and girls from having to conform to rigid, externally derived standards of beauty even though the majority of studies have found that cultural factors do play an important role in the development of body satisfaction and dissatisfaction among black women (Grabe & Hyde, 2006).

Studies conducted on cross-cultural differences in body size in the South Pacific have revealed that fatness among women is linked with femininity and high status and authority among Islanders (Swami, 2015). Studies on body image in South Africa have mostly focused on white women even though literature indicates that cultural factors have a strong influence on body image (Mwaba & Roman, 2009).

A review by Toselli et al., (2016) stated that studies reported results of South African women from urban (Cape town) and rural (KwaZulu-Natal) areas, and both groups wished to lose weight but the greatest discrepancy was among the urban group residents while the rural inhabitants preferred an overweight body shape, thus it was highlighted that women who are more aligned with western values wish to be thinner while those who are aligned with African values remain content with their body size.

Limited research has examined ethnic differences in the body image of men and previous studies have found that there are no ethnic differences for men in body image or body satisfaction (Cachelin et al., 2002b). The main findings of Sylvania (2017) study showed that ethnicity was a significant predictor of muscle symptomology as previous studies stated that culture impacts ethnicity.

A review of cross-cultural research on body type preferences suggested that larger body builds are generally desired across cultures and a sample of Ukrainian and Ghanaian men desired to be more muscular although the percentage of men desiring to increase muscularity was less than the United States samples (Frederick et al., 2007). Previous evidence suggests that black males have a greater preference for larger body size and a more positive image than whites (Ricciardelli et al., 2007).

Most studies investigating the drive for muscularity among men have sampled white men in western populations and a limited number of studies that have sampled from outside the western demographic have produced mixed findings (Thornborrow et al., 2020). Heritage and mainstream cultural norms are likely to influence men's view of physical attractiveness, muscularity, and manhood although the influence may be in opposite directions for example the mainstream American culture observes muscularity as a reflection of masculinity while the Chinese tradition values cerebral qualities (e.g., wisdom) over muscular appearance (Cheng et al., 2016).

Findings of a study that sampled Asian-American college students indicted that males rated physical coordination and muscle tone as most important regarding their body and that individuals who identified more with their ethnic group are

more likely to be satisfied with their appearance as one's ethnic group influences the individual's body image (Lee, 2007).

2.2.6 *Prevalence of muscle dysmorphia*

There is no greater prevalence of muscle dysmorphia than in bodybuilding as it requires enhanced muscularity and leanness to be competitive as bodybuilding, although the majority of research conducted involves middle age males it has been found that the onset of MD is between 19 and 20 years of age (Williams, 2011). Previous research stated that there is no large-scale nationwide prevalence of MD for United State adults although it has been reported that the prevalence rate of MD was 12.7% among a sample of entry-level U.S. military personnel and between 5% and 10% of U.S. weightlifters are estimated to have MD (Grunewald et al., 2022).

Findings Hitzeroth et al., (2001) study found that there is a high rate of muscle dysmorphia in a sample of amateur competitive bodybuilders in the Western Cape, and Sarfraz et al., (2020) found that 25% of the male medical students sampled have muscle dysmorphia. The prevalence of muscle dysmorphia varies across countries with the proportion of Spain ranging from 1-11%, the United states 9.8-23%, Hungary 15.1%, Australia 17%, Italy 3.4-25%, India 44.3%, Colombia 52%, Africa 53.6%, and Turkey 58.3% (Susanto et al., 2020).

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research design

This study has used a correlational design to measure the relationship between self-objectification and muscle dysmorphia as this design aims to find whether there is a positive, negative, or zero correlation (McCombes, 2019).

3.2 Sample population

This study used purposive sampling as this type of sampling is conducted by rejecting individuals who do not meet the particular profile, thus using a homogeneous technique that focuses on individuals who share similar or specific traits (Etikan et al., 2016). The sample consisted of undergraduate male students at the University of Limpopo who came from all four faculties of the school namely: Health sciences, humanities, management and law, and science and agriculture. An estimated number of 348 students participated in the study.

3.3 Procedure

Before the study was conducted the researcher applied for ethical clearance and obtained it from the University of Limpopo's Research ethics committee. The researcher approached the students by using the Keyaka student email whereby the questionnaire link was sent to all registered students which were created on google forms and participants were made aware of the purpose of the study and that it was specifically for males, also the study is voluntary and that participants may choose not to participate, and they also made aware of the confidentiality and anonymity. All the data was entered in SPSS.

3.4 Instruments

Various instruments used in the study were described and details about measurement scales and psychometric properties are outlined, the completed scales are not reproduced as the researcher has no permission to publicise them.

3.4.1 *Biographical data*

The participants completed a biographical questionnaire which was designed to collect information such as original residential area, socio-economic status, ethnicity, and educational level.

3.4.2 *Internalisation: Muscular*

The most widely used instrument developed to assess sociocultural risk factors for body image disturbances and disordered eating is the Sociocultural Attitudes Towards Appearance Questionnaire, the first version was designed to assess women's internalisation of sociocultural norms regarding physical appearance (Cihan et al., 2016).

The SATAQ-4R has five subscales which are "Internalisation: Thin, Internalisation: Muscular, Pressures: Family, Pressures: Peers and Pressures: media" (Lim, 2018) of which this study used the subscale Internalisation: Muscular, and each item is rated on a 5-point Likert scale ranging from 1 (definitely disagree) to 5 (definitely agree). In a previous study reliability estimate for the subscale Internalisation: Muscular was $\alpha = 0.832$ (Mamabolo, 2019). In this study, the reliability for this subscale was $\alpha = .92$

3.4.3 *Muscle Dysmorphic Disorder Inventory (MDDI)*

The MDDI was developed by Hildebrandt et al., Langenbucher, and Schlunt (2004) and is among the most widely screening tools specific to muscle dysmorphia and it is the only instrument that assesses functional impairment (Nagata et al., 2022). The questionnaire consists of 13 items with 3 subscales, drive for size (DFS), appearance intolerance (AI), and functioning impairment (FI). The DFS refers to the perception of not being sufficiently muscular. Secondly, the AI subscale evaluates the presence of avoidance behaviours of displaying one's own body. Finally, FI contains items related to maintaining a routine of excessive exercise (Sepúlveda et al., 2019). The present study only uses the total score in the main analysis. The scale is rated on a 5-point Likert scale with responses ranging from 1 (never) to 5 (always) and the scale showed

a good internal consistency of Cronbach's alpha of .81 and test-retest reliability of $r = .87$ (Zeeck et al., 2018). This study's reliability was $\alpha = .78$.

3.4.4 Rosenberg Self-Esteem Scale (RSES)

The RSES was developed by Rosenberg (1965), and it is a popular measure of global self-worth and self-respect (Gnambs & Schroeders, 2020). The scale consists of 10 items that measure global self-esteem on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) with statements such as "At times, I think I am no good at all". There are five items (2, 5, 6, 8, & 9) that are reversed items (Ciccolo et al., 2016).

Scores range from 10 to 40 whereby a score below 15 indicates low self-esteem and a score above 25 indicates high self-esteem (Greenway & Price, 2020b). Good internal consistency values have been reported for the original RSES, with alpha coefficient reliabilities ranging from $\alpha = .77$ to $.88$ (Cerea et al., 2018). The scale was found to be useful in the South African context (Makhubela & Mashegoane, 2017; Westaway, 2002). The reliability of the scale in this study was $\alpha = .80$. Makhubela and Mashegoane (2017) found that although there were method effects where negatively worded items of the RSES could influence the scoring results, it was nonetheless possible to utilize the total score of the scale for analysis. That is the reason why the current study will use the total scale score for conducting analysis.

3.4.5 The Drive for Muscularity Scale (DMS)

The DMS was developed by McCreary and Sasse (2000) to assess body image concerns related to a muscular, mesomorphic physique. The scale specifically measures attitudes and behaviours that reflect the individual's preoccupation with increasing muscularity (Woodruff, 2012). The scale is composed of 15 items, measured on a 6-point Likert scale ranging from 1 (always) to 6 (never), responses are reverse scored and then summed with the mean of the 15 responses representing a total score as scores ranging from 1 to 6 and higher scores indicate a higher muscle dysmorphia (Parnell, 2011).

The DMS consists of two subscales termed Muscularity-Oriented Body Image Attitudes (MBI-A) which is an eight-item subscale with items such as “I Think that my chest is not muscular enough” (Nerini et al., 2016) and Muscularity-Oriented Behaviours (MB) which is a seven-item subscale that measures behaviours associated with the drive for muscularity with items such as “I lift weights to build up muscle” (Ryan & Morrison, 2014). The scale showed great internal consistency and reliability given Cronbach’s α ranging from 0.86 to 0.91 in a previous study (Sai et al., 2020), in this study the reliability was $\alpha = .88$.

3.4.6 *Setho/Isintu scale of ethnic identification index*

Seven items were created into an index to measure attachment to African culture, or ethnic identification (Mashegoane & Makhubela, 2018). Participants will respond using a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6). The higher response score suggests that they are inclined to adhere to African culture in their everyday lives. Example items are: ‘I live my life according to the guidance and precepts of “setho”/ “isintu”’, and ‘I have fashioned my beliefs about life following “setho”/ “isintu”’. Reliability for the S/I-ICI was found to be $\alpha = 0.93$ in Mashegoane and Makhubela’s (2018) study. In the present study, the reliability was estimated to be $\alpha = .93$.

CHAPTER 4: RESULTS

4.1 Analysis of Data

Data were captured and analysed using the IBM Statistical Package for the Social Science version 28. Frequencies, percentages, means, and standard deviations were generated to provide sample characteristics. The Pearson product-moment correlation coefficient analysis was used to determine the relationship between the main variables of the present study namely, self-objectification, muscle dysmorphia, self-esteem, and, Afrocentric identification. Lastly, mediation was done using the Hayes (2018) PROCESS Macro Model 6 to assess whether there is a mediational effect.

4.2 Demographic variables of participants

The study consisted of male students from the University of Limpopo, three hundred and forty-eight males from all four facilities namely, health sciences, humanities, science and agriculture, and management and law. Most of the participant's ethnicity is African (99%) followed by the same frequency (0.3%) is Coloured and Indian and only 10 items are missing.

Descriptive analysis indicated that 75% of the present study participants are from a rural area and 26% from an urban area with most of the participants' socio-economic status being lower-middle class (58%) followed by 34% being working-class and the smallest being upper class (0.9%). Lastly, most of the participants are undergraduate students (88%) and only 12% of the participants are postgraduates see Table1.

Table 1:

Description of the sample (N = 348)

	F	%
<u>Ethnicity:</u>		
African	337	99.4
Coloured	1	.3
Indian	1	.3
<u>Socio-economic status:</u>		
Working-class	116	34.0
Lower-middle class	198	58.1
Upper middle class	24	7.0
Upper-class	3	.9
<u>Education level:</u>		
Undergraduate	305	87.9
Postgraduate	42	12.1

<u>Domicile area:</u>			
	Rural area	257	74.5
	Urban area	88	25.5

4.3 Correlation analysis of all the main variables

Correlation analysis was conducted to establish whether there is a relationship between the study's variables therefore all the main variables of the study were subjected to correlation analysis between themselves, results are shown below in Table 2. As expected, the scale MDDI correlated with its subscales which include a drive for size, appearance intolerance, and functional impairment ($r = .659-.7420$ ($CI = .595-.786$) $p = .001$). The results showed that there is an association between SATAQ-4R subscale termed I-M and MDDI ($r = .405$ [$CI = .309-.486$], $p = .001$). A positive significant correlation was found between the variables MDDI and RSES ($r = .401$ [$CI = .309-.486$], $p = .001$).

The association between RSES and I-M was found to be significantly correlated ($r = .181$ [$CI = .078-.281$], $p = .001$). The variable Afrocentric identification was found not to be associated with all variables ($p > 0.05$) excluding the MDDI subscale functional impairment (FI) ($r = .132$ [$CI = .028-.234$], $p = .013$). Therefore, correlational analysis established that it is possible to conduct mediation analysis as the linear relationships between most of the primary study variables. However, ethnic identity would be excluded because it did not correlate.

Table 2**Correlation analysis (N = 348)**

		1	2	3	4	5	6	7
1	MDDI	1						
2	DFS	.742 .001	1					
3	AI	.659 .001	.233 .001	1				
4	FI	.688 .001	.176 .001	.301 .001	1			
5	I-M	.405 .001	.361 .001	.223 .001	.242 .001	1		
6	RSES	.401 .001	.270 .001	.434 .001	.171 .001	.181 .001	1	
7	SI-EII	.019 .727	-.007 .894	-.103 .055	.132 .013	.028 .600	-.063 .240	1

Note: MDDI: Muscle dysmorphic disorder inventory, DFS: Drive for size, AI: Appearance intolerance, FI: Functional impairment, I-M: Internalisation: Muscularity, RSES: Rosenberg self-esteem scale and SI-EII: Setho/Isinto ethnic identification index.

4.4 The mediating role of self-esteem in the association between self-objectification and muscle dysmorphia

Mediation analysis was conducted with the Hayes (2016) PROCESS macro to test the study's hypothesis that the association of self-objectification and muscle dysmorphia will be mediated by self-esteem and ethnic identity. Correlation analysis established that there was no correlation between Afrocentric identification and almost all the main variables ($p > .05$). The size of the correlation with the only variable it correlated with (namely FI) was small. The same results were also found using model 6 of the PROCESS macro. Therefore, analysis was revised, where only one mediator, self-esteem was included (see Figure 1). PROCESS macro model 4 established that there is an indirect effect of muscle dysmorphia through self-esteem ($b = .055$, {BCa CI [.018— .094]; see Table 3). The overall results indicated that self-esteem does mediate the association between self-objectification and muscle dysmorphia.

Figure 1

Mediation analysis

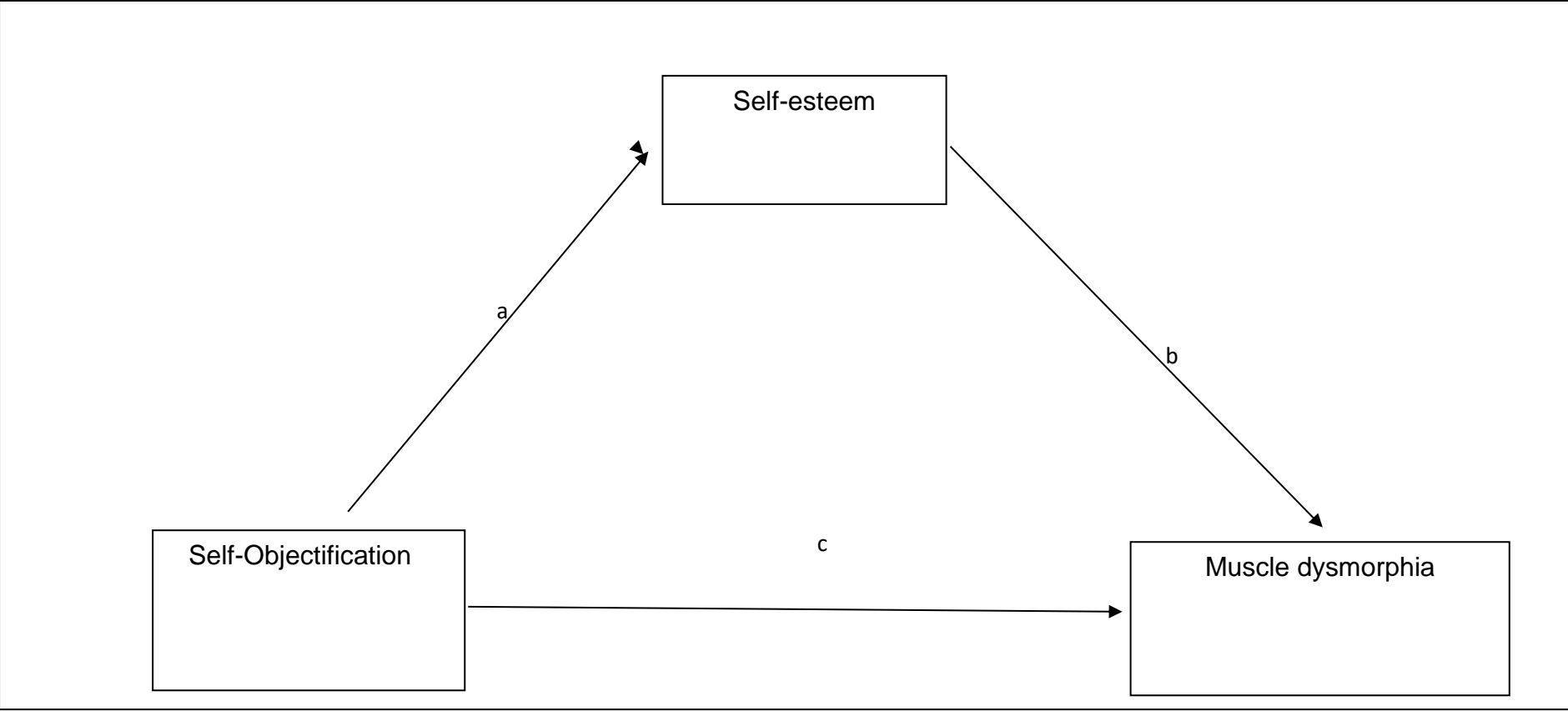


Table 3

Direct and indirect effects of Self-objectification (Y), Muscle dysmorphia (X), and Self-esteem (M)

Outcome variable	Path a = b (SE)	Path b = b (SE)	Direct effect = b (SE)	indirect effect (CI)
Muscle dysmorphia	.209 (.061) ***	.456 (.070) ***	.601 (.081) ***	.055 (.018—.094)

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter will discuss the results that are presented in the previous chapter, and the study's aim is to investigate the relationship between the main variables and the mediation role of self-esteem and ethnic identity.

5.2 The association between self-objectification and muscle dysmorphia will be mediated by self-esteem and Afrocentric identification

Mean scores of male students on self-objectification and muscle dysmorphia were compared to test the hypothesis and the first aspect of the hypothesis was conclusive as the results were statistically significant supporting findings by Lennon and Johnson (2021) and Heath et al. (2016). In support of the current study's findings, Grieve and Helmick (2008) found that men who reported to have high levels of self-objectification had a greater drive for muscularity and higher levels of muscle dysmorphia symptoms than men who reported to have low levels of self-objectification and Zarei (2020) found that the relationship between self-esteem and the drive for muscularity was significant.

It is established that self-objectification is related to low body esteem and self-esteem (Strelan & Hargreaves, 2005). The present study seeks to establish in more precise terms the role of self-esteem against self-objectification. Furthermore, prior research investigated the association between contingent self-esteem and the drive for muscularity which was moderated by gender and the results found that greater contingent self-esteem is associated with a stronger drive for muscularity (Grossbard et al., 2017). Thus, the results of this study, establishing that self-esteem itself is a mediator are important.

Susanto et al. (2020) indicated that muscular internalisation is a predictor for muscle dysmorphia with the greatest adjusted regression coefficient for MD and the results showed that there is a significant correlation between muscular internalisation and muscle dysmorphia which supports the present study's

findings, research findings from Klimek et al. (2018) also reported that muscularity internalisation and thinness internalisation are positively associated with disordered eating as well as muscle dysmorphia as it was found that men who internalised the muscular ideal to a greater extent had higher levels of muscle dysmorphia symptoms.

5.2.1 The mediating role of Afrocentric identification

The results in this present study on the concept of Afrocentric identification as a mediator for the association between self-objectification and muscle dysmorphia were not statistically significant which is contrary to Loughnan et al., (2015) findings which were unexpected, the present study's literature review in overall states that culture is part of one's identity and that traditional people are more prone to self-objectification and body image concerns.

Baugh et al., (2011) findings revealed that there is no significant relationship between Afrocentric identification and body dissatisfaction as the findings suggest that both White and Black females experience body dissatisfaction regardless of their ethnicity therefore additional factors such as identification with the dominant ethnicity and internalisation of beauty standards and attractiveness may contribute to body satisfaction and in Mamabolo's (2019) study it was hypothesised that cultural identity will moderate the associations between self-objectification, body dissatisfaction and health-related behaviours however there was no moderating effect found thus supporting the present study's findings.

Previous research indicated that body image dissatisfaction is ethnically bound, as South Africa goes through an epidemiological transition adolescent boys and girls are exposed to Western ideals (Gitau, 2014). Cheng et al., (2015) findings highlighted that acculturation is an important context for muscularity concerns as it was found that Asian American men who are highly acculturated are more likely to conform to the majority culture's standards of attractiveness and manhood than their less acculturated peers'.

A large and rich body of research has been on body image concerns in females and limited research on males. In black African culture a larger figure is

perceived as aesthetically beautiful and desirable and it is mostly associated with happiness and wealth (Mwaba & Roman, 2009; Okop et al., 2017). Therefore, the acceptance and embracement of a larger figure might serve as a protective factor against body dissatisfaction (Kilpela et al., 2018). Williamson et al., (2020) stipulated that men who are actively exploring their Afrocentric identity may be formulating a more complex sense of identity-based not only on appearance but also on their ethnicity which acts as a protective factor against psychopathology. Awad et al.,'s (2020) study investigated whether enculturation (the espousal of ethnic society traditions, norms, values, and beliefs) and Afrocentric identification in African American women were related to their body image, it was found that enculturation was positively related to the overweight preoccupation of which would not support the cultural buffering hypothesis and it was also found that enculturation is associated with body dissatisfaction which contradicts the present study's findings.

Also in contrast to the present study's findings, Swami (2016) found that greater adherence to traditional cultural values appears to be associated with a lower drive for muscularity in all ethnic groups, and Schultz (2012) hypothesised that race/ethnicity would be related to body dissatisfaction. However, it was not confirmed which might be because neither race/ethnicity protects women from exposure to a thin ideal supporting the current study findings. Cachelin et al., (2002) findings did not support the hypothesis that there are ethnic differences in acceptable body size by Blacks and Hispanics as they found no ethnic differences among a sample of men and very few differences among women.

Awad et al., (2020) stated that one reason for the lack of significant relationships between Afrocentric identification and body dissatisfaction might be because of the distal nature of the relationships e.g., the level of pre-encounter miseducation attitudes would not be predicted to have a direct relationship with body image and Yam's (2013) results showed that the relationship between culture and body image is complex and works in opposite ways depending on whether "culture" is conceptualised internally as subjective internalisation or externally as cues in the environment.

Olson et al., (2020) stated that it is important for future research to determine the variability of cultural ideals that drive body image concern, another problem regarding cross-cultural body image studies is generalisation as nationality is mostly used as a rough indicator for culture (Holmqvist & Frisén, 2010). Cross-cultural studies on body dissatisfaction and related issues are challenging because nearly all of the measures and theoretical systems describing body dissatisfaction have been developed from the study of U.S and Western European populations thus cross-cultural research will have difficult problems with translation, the cross-cultural equivalence of measures and appropriateness of applying theories outside of their culture origin (Forbes et al., 2012).

5.2.2 The mediating role of self-esteem

Self-esteem has been highly researched in predicting body image concerns and other psychopathologies. The present study analysis indicated that self-esteem does serve as a mediator between self-objectification and muscle dysmorphia supporting the findings of Ali and Mahler (2018) and Cerea et al., (2018) studies, Chaney (2008) found that there is a relationship between muscle dysmorphia and self-esteem as the results from a sample of gay and bisexual men indicated that the more symptoms of muscle dysmorphia experienced the more level of self-esteem is compromised.

Grieve and Helmick (2008) could not support the prediction that men with high levels of self-objectification would have lower self-esteem and Parnell (2011) hypothesised that there will be a significant negative correlation between self-esteem and muscle dysmorphia however the study's results did not support the hypothesis. Muscle dysmorphia has been stated to be a subtype of body dysmorphic disorder and findings from Ahmadpanah et al., (2019) found that there was no significant correlation between body dysmorphic disorders and self-esteem, indicating that self-esteem is not related to body dysmorphic disorders and sociocultural attitudes towards the appearance of which these findings are in contrary with the current study's findings.

Self-esteem and self-worth are used interchangeably in most studies, self-esteem has been defined as one's positive or negative self-evaluation, and most researchers focused on specific domains in which self-esteem is based as one's self-worth might depend on the success or failure of a particular domain of contingency e.g., academic competence (Schmidt, 2014), therefore individuals with appearance-contingent self-worth spend most of their time in enhancing their attractiveness and are still not satisfied with their appearance which may lead in the development of body image dissatisfaction and eating disorders (Modica, 2019) and Adams et al., (2017) first study found that appearance-based self-worth was positively associated with self-objectification thus indicating that self-objectification is associated with higher appearance anxiety and lower overall self-esteem.

Self-esteem may act as a buffer between acceptance of sociocultural influences and body dissatisfaction however self-esteem was found to be significantly negatively correlated with symptoms of eating disorder and muscle dysmorphia (Lamanna et al., 2010), and Babusa (2013) also indicated that muscle dysmorphia is associated with lower levels of self-esteem.

A hypothetical model found support in that self-objectification significantly predicted low self-esteem which in turn made a significant impact on body image concerns as previous studies on correlation analysis confirmed that there is a relationship between self-objectification and self-esteem (Mirucka & Kisielewska, 2021) therefore, supporting that self-esteem mediated significantly the relationship between the independent and dependent variables.

5.3 Conclusion

The current study involves African males who are preoccupied with being muscular. The association between self-objectification and muscle dysmorphia was found and the mediational role of self-esteem was found to predict the relationship between self-objectification and muscle dysmorphia, however, Afrocentric identification was unable to mediate the relationship which might be because of various reasons such as acculturation which is when individuals from minority ethnicities adopt the belief, values, customs, etc of the dominant

ethnicity. The findings of the present study have a significant implication for individuals suffering from muscle dysmorphia unknowingly as most individuals have little to no knowledge of muscle dysmorphia and early detection will enable individuals to seek appropriate treatment.

5.4 Limitations of the study

The present study has several limitations. Firstly, the current study used self-reporting questionnaires to collect data therefore the participants might have underreported their symptoms or chosen to represent themselves more positively, secondly the study used a cross-sectional design which does not establish a cause-and-effect relationship.

Thirdly the study used convenience sampling thus the study is unable to generalise the results to African males. Lastly, for some of the instruments used, such as the SATAQ-4R only a single subscale (Internalisation: Muscular) was used to avoid an overwhelming number of items in the final questionnaire. The limited use of the scales might have its disadvantages; the study might have been unable to capture the construct under investigation (for instance self-objectification) in its diversity.

5.5 Recommendations of the study

Most researchers have stipulated that there is limited knowledge on the nature of the present study, thus the present study adds to the knowledge in psychology, and findings of the present study have highlighted the importance of the variables studied in males which may lead to the development of appropriate treatment and intervention strategies. It is therefore recommended that further research be done on these variables in the southern hemisphere as most previous research has sampled northern hemisphere inhabitants. Lastly, it is recommended that a longitudinal research design be used to establish a cause-and-effect relationship between the main variables.

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TURFLOOP RESEARCH ETHICS COMMITTEE ETHICS CLEARANCE CERTIFICATE

MEETING: 17 August 2021

PROJECT NUMBER: TREC/133/2021: PG

PROJECT:

Title: Self-objectification and muscle dysmorphia among African males: Self-esteem and Africentric identification as mediators

Researcher: M Malepe

Supervisor: Prof S Mashegoane

Co-Supervisor/s: N/A

School: Social Sciences

Degree: Master of Arts in Psychology

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.