

**SELF-OBJECTIFICATION, CULTURAL IDENTITY, BODY DISSATISFACTION,
AND HEALTH-RELATED BEHAVIOURS AMONG FEMALE AFRICAN
UNIVERSITY STUDENTS**

By

MOKGAETJI PHILISTUS MAMABOLO

MINI-DISSERTATION

Submitted in partial fulfilment of the requirement for the degree of

Master of Arts

In

CLINICAL PSYCHOLOGY

In the

**FACULTY OF HUMANITIES
(School of Social Sciences)**

At the

UNIVERSITY OF LIMPOPO

SUPERVISOR: PROF S. MASHEGOANE

2019

DECLARATION

I declare that Self-objectification, cultural identity, body dissatisfaction, and health-related behaviours among female African university students (mini-dissertation) hereby submitted to the University of Limpopo, for the degree of Master of Arts in Clinical Psychology has not previously been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all material contained herein has been duly acknowledged.

Mamabolo, M. P. (Ms)

May 2019

DEDICATION

This mini-dissertation is dedicated to my mother, late father, and my children.

ACKNOWLEDGEMENTS

- First of all, I would like to thank God, the Almighty, for His spiritual guidance, unconditional love, mercy and grace that has gotten me this far.
- I express my sincere gratitude to my supervisor Prof S. Mashegoane for his knowledge, patience, guidance and the time he dedicated throughout this study.
- I would also like to thank Mr K. Mashaba and Ms T.D. Molobela for their team work and collaboration during the gathering and capturing of data. I also would like to thank Prof M Malose for statistical analysis.
- I also would like to acknowledge the social and spiritual support received from my church.
- A hearty thank you is extended to my family and friends, for the encouragement and support throughout the study.
- A special thank you to my mother, my late father; who have always given me courage and their support in many ways throughout my life, and my children for always being my pillar of strength.
- Gratitude is also extended to the research participants, whose willingness to participate made the study possible.

ABSTRACT

Sociocultural pressures, including the thin-ideal internalization, and other aspects of self-objectification, are associated with body dissatisfaction. However, there is limited research regarding the association between self-objectification and engagement in health related behaviours among African females. A quantitative study was conducted with a sample of 411 female African university students from the University of Limpopo, South Africa to investigate the relationship between internalisation of socio-cultural beauty standards and body dissatisfaction and engagement in health related behaviours. The study further explored whether cultural identity would moderate the relationship between internalisation of socio-cultural beauty standards and both body dissatisfaction and engagement in health related behaviours. Structural equation modelling (SEM) suggested that internalization of socio-cultural beauty standards significantly predicted students' body satisfaction. No statistically significant relationship was found between internalization of socio-cultural beauty standards and engagement in health related behaviours. Also, cultural identity did not moderate the relationship between self-objectification and both body dissatisfaction and engagement in health related behaviours. This being a single study, further research is required to determine the relationship between the variables.

TABLE OF CONTENTS

Content	Pages
DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENTS.....	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	ix

CHAPTER ONE: INTRODUCTION

1.1	General Introduction.....	1
1.2	Statement of the problem.....	2
1.3	Study aim.....	3
1.4	Objectives.....	3
1.5	Hypotheses.....	4
1.6	Significance of the study.....	4
1.7	Summary.....	4

CHAPTER TWO: THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1	Introduction.....	6
2.2	Operational Definition of Key Concepts.....	6
2.3	Theoretical Perspective of the study.....	7
2.4	Literature Review.....	9
2.4.1	Internalization of Socio-Cultural Beauty Standards and Body Dissatisfaction.....	10
2.4.2	Internalization of Socio-Cultural Beauty Standards and Smoking.....	11
2.4.3	Internalization of Socio-Cultural Beauty Standards and Eating Habits.....	13

Content	Pages
2.4.4 Internalization of Socio-Cultural Beauty Standards and Physical Activities.....	15
2.4.5 Cultural Identity as a Moderator between Self-Objectification and both Body Dissatisfaction and Health Related Behaviours.....	17
2.4.6 Demographic Variables Related to Self-Objectification, Body Dissatisfaction and Engagement into Health Related Behaviours among females.....	19
2.5 Study Model to be Tested.....	21
2.6 Summary.....	21

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction.....	23
3.2 Research Design.....	23
3.3 Study Variables.....	23
3.4 Study Population and Sampling Design.....	25
3.5 Procedure for Data Collection.....	25
3.6 Ethical Considerations.....	25
3.7 Instruments for Data Collection.....	26
3.7.1 Demographic variables questionnaire.....	26
3.7.2 Sociocultural attitudes towards appearance questionnaire-4 (SATAQ-4).....	26
3.7.3 Body parts satisfaction scale-revised (BPSS-R).....	27
3.7.4 Overall level of satisfaction with body.....	27
3.7.5 Eating choices index (ECI).....	27
3.7.6 Godin leisure-time exercise questionnaire (GLTEQ).....	28
3.7.7 The weight control smoking scale (WCSS).....	28
3.7.8 The S/I-ICI.....	29
3.7.9 MEIM-R	29
3.8 Summary.....	30

CHAPTER FOUR: RESULTS

4.1	Introduction.....	31
4.2	Demographic Characteristics of Participants.....	31
4.3	Demographic Characteristics of Participants.....	31
4.4	Data Analysis.....	36
4.5	Results.....	36
4.6	Summary.....	37

CHAPTER FIVE: DISCUSSION

5.1	Introduction.....	40
5.2	Internalization of Socio-Cultural Beauty Standards and Body Dissatisfaction.....	40
5.3	Internalization of Socio-Cultural Beauty Standards and Smoking.....	41
5.4	Internalization of Socio-Cultural Beauty Standards and Eating Habits.....	42
5.5	Internalization of Socio-Cultural Beauty Standards and Physical Activity.....	43
5.6	Cultural Identity as a Moderator between Self-Objectification and both Body Dissatisfaction and Health Related Behaviours.....	44
5.7	Demographic Variables Related to Self-Objectification, Body Dissatisfaction and Engagement into Health Related Behaviours among females.....	45
5.8	Conclusion.....	47
5.9	Limitations of the Study.....	47
5.10	Recommendations.....	48
5.11	Summary.....	48
	REFERENCES.....	50
	APPENDICES.....	65

Content	Pages
Appendix 1: Ethical Clearance.....	65
Appendix 2: Letter of Invitation to Participants.....	66

LIST OF TABLES

	Title	Page
Table 1:	Variables of the Study	24
Table 2:	Demographic Variables of the Sample (N = 411).....	33
Table 3:	Body Satisfaction's Association with Socio-Cultural Beauty Standards.....	38

LIST OF FIGURES

Title	Page
Figure 1: Model of the Study.....	22
Figure 2: Hypothesized Model.....	39

CHAPTER ONE: INTRODUCTION

1.1 General Introduction

The way a person perceives her body image influences how she will react to it. The changing perception of feminine beauty in African countries, particularly among urban dwellers, is largely influenced by Western media (Mastamet-Mason, 2014). Theory and research suggest that sociocultural pressures, including the thin-ideal internalization, and other aspects of self-objectification, are associated with body dissatisfaction (Alveranga & Dunker, 2014; Oehlhof, Musher-Eizenman, Neufeld, & Hauser, 2009). In particular, media awareness, or knowledge of the thin-ideal as presented by the media, and social influence, namely, actions taken or comments made by family and friends to encourage a slender body type, are important facets of the sociocultural pressure to conform to the body ideal of thinness (Myers & Crowther, 2007).

Entering the university environment for most students resembles an academic life without direct parental supervision for the first time. In this setting, students are required to make independent decisions regarding their health-related activities which include participation in physical activity and incorporating a healthy diet into their daily routines (Nolan & Surujlal, 2012). Furthermore, this is the stage of life where entering the university environment as a young adult is a dynamic period for body image development (Gillen & Lefkowitz, 2012). During this time self-objectification may lead them to be over-critical of their bodies (Gillen & Lefkowitz, 2012). Body dissatisfaction in turn influences the students' engagement in health related behaviours.

Three health related behaviours, namely, dieting, physical activity and not smoking, are of interest in this study since they often emanate from body dissatisfaction among women. Dieting to lose weight is a widespread practice among them (Holmqvist, Lunde, & Frise'n, 2007; Loth, MacLehose, Bucchianeri, Crow, & Neumark-Sztainer, 2014) and this behaviour is mainly associated with body image concerns (Mendes, Araújo, Lopes, & Ramos, 2014). High dieting prevalence even among female students who are normal

weight, may be explained by a strong social pressure to be thin (Littleton & Ollendick, 2003; Mendes et al., 2014). Despite the physical health-related benefits associated with regular physical activity, exercise motivated by appearance reasons (e.g., weight control) can lead to poorer body image in some women (Prichard & Tiggemann, 2007). Smoking habits are currently seen to be a trend among female students and studies indicate that women are motivated to smoke to control weight (Jenks & Higgs, 2007). Cigarette smoking to control weight is in turn related to negative body perception (Larsen, Otten, & Engels, 2009).

Though self-objectification is usually studied in relation to body dissatisfaction and disordered eating, the study will focus on how it is related to health-related behaviours, as well as on whether cultural identity moderates the relationship between the variables. The model to be tested suggests that self-objectification will lead to body dissatisfaction among women. Body dissatisfaction will then lead to engagement in health related behaviours such as healthy eating or dieting, engagement in intense physical activity, and abstaining from smoking. The relationship between self-objectification and both body dissatisfaction and health related behaviours will be moderated by cultural identity.

1.2 Statement of the Problem

Research indicates that the influence of media affects how women view their body appearance (Klein, 2013; Mask & Blanchard, 2011). Sociocultural factors (e.g., pressure from parents, friends, and media) are directly related to disordered eating (Fortes, Ferreira, Oliveira, Cyrino, & Almeida, 2015). On the other hand, cultural identity is found to be associated with increased self-esteem, diminished eating pathology and/or diminished body dissatisfaction (Rakhkovskaya & Warren, 2014). Nevertheless, in this study it is cultural identity's potential as a moderator that is of interest. Being obese in many sectors of the African population is perceived to reflect affluence and happiness (Puoane et al., 2002).

There is limited research regarding relations of self-objectification and engagement into health related behaviours. Less is known in South Africa regarding whether cultural influences on beauty ideals will predict female students' engagement in health related behaviours such as physical activity, controlled eating, and non-smoking habits. There is also the need to explore whether there is a relationship between self-objectification (thin body ideal) and body dissatisfaction among female students. It is important to include a demographic variable such as socio-economic status because it also plays a major role in the perception\evaluation of one's body image (Frederick, Forbes, & Berezovskaya, 2008; Swami et al., 2010; Swami, Knight, Tovée, Davies, & Furnham, 2007; Thomas, 2010; Von Lengerke, Mielck, & KORA Study Group, 2012).

1.3 Study Aim

The aim of the study is to investigate whether internalisation of socio-cultural beauty standards will predict female students' engagement in health related behaviours such as non-smoking, healthy eating habits, as well as engagement in physical activity; and also to determine whether the relationship between self-objectification and health-related behaviours is moderated by cultural identity.

1.4 Objectives

The objectives of the study were to investigate whether:

- 1.4.1 The internalization of socio-cultural beauty standards will encourage female students to be physically active, to engage in healthy eating habits and to desist from smoking.
- 1.4.2 The internalization of socio-cultural beauty standards will lead to body dissatisfaction among female students.
- 1.4.3 The association between self-objectification and both body dissatisfaction and health related behaviours is moderated by cultural identity among female students.

1.5 Hypotheses

The hypotheses of this study were as follows:

- 1.5.1 Female students who internalise socio-culturally sanctioned beauty standards are more likely to participate in higher rates of physical activities, to engage in healthy eating habits, and to desist from smoking.
- 1.5.2 Female students who internalise socio-cultural beauty standards are more likely to experience body dissatisfaction.
- 1.5.3 The association between self-objectification and both body dissatisfaction and health related behaviours will be moderated by cultural identity among female students.

1.6 Significance of the Study

The study will be of significance to the body of knowledge in the field of psychology as it explores greater understanding of objectification and self-objectification as some of the reasons for the development of body dissatisfaction, leading to women's engagement in certain health related activities. Considering that body image problems may lead to psychological and health-related problems, it is important to study this phenomenon. It is also important to identify protective factors against body dissatisfaction such as cultural identity. The role of the latter should have an influence on how preventative programmes are designed.

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 FRAMEWORK AND LITERATURE REVIEW

2.1 Introduction

This chapter comprises of 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 women, regarding the relationship between self-objectification and body dissatisfaction, and engagement in health related behaviours, and cultural identity as a moderator between self-objectification and both body dissatisfaction and health related behaviours. The model of the study will also be illustrated in this chapter.

2.2 Operational Definition of Key Concepts

a) Body dissatisfaction

Body dissatisfaction is defined as dysfunctional negative beliefs and feelings about one's weight and shape (Cash & Pruzinsky, 2004). This includes self-appraisal or judgements about body size, shape, and muscle tone.

b) Cultural identity

Cultural identity refers to familial and cultural dimensions of a person's identity, and how others perceive him or her, that is, factors that are significant to a person's identity both as perceived by the individual and how others perceive the person's identity (Ibrahim & Heuer, 2016). According to the Center for Intercultural Dialogue (2014), the identification with, or sense of belonging to a particular group is based on various cultural categories, including nationality, ethnicity, race, gender, and religion. In this study, cultural identity was measured with a global measure called Setho/Isintu Index of Cultural Identity (S/I-ICI). Although the items were geared towards African culture, they are considered to measure the general concept of identification with traditional culture.

c) Objectification of women

Objectification is defined as the seeing and/or treating of a person, usually a woman, as an object. According to objectification theory, girls and women are typically acculturated to internalize an observer's perspective as a primary view of their physical selves. This perspective on self can lead to habitual body monitoring, which, in turn, can increase women's vulnerability to shame and anxiety, reduce opportunities for experiencing peak motivational states, and diminish awareness of own internal bodily states (Fredrickson & Roberts, 1997).

d) Self-objectification

Self-objectification is defined in objectification theory as the process through which women internalize social expectations about their bodies as objects to be valued for external appearance rather than internal qualities (Fredrickson & Roberts, 1997). The concept self-objectification will be used interchangeably with internalization of beauty standards in the text.

e) Thin-ideal internalisation

Thin-ideal internalization is defined as the psychological process that occurs when women assimilate the attitudes, beliefs, perspectives, and values held by other people, such as believing that society values and considers a thin body as attractive (Thompson, Van den Berg, Roehrig, Guarda, & Heinberg, 2004). Once the women believe that it is desirable to possess a thin body, they then strive to achieve it, in turn believing that it is necessary to achieve the ideal.

2.3 Theoretical Perspective of the Study

Objectification theory (Fredrickson & Roberts, 1997) posits that valuing one's body for appearance rather than performance is associated with a range of negative psychological outcomes (Wagner Oehlhof, Musher-Eizenman, Neufeld, & Hauser, 2009). The theory proposes that women are more likely to

receive messages from parents, peers, men, and the general media that their appearance is central to their worth as persons and is routinely scrutinized by others. It is clear how this appearance focus, coupled with the thin ideal presented in society for women, could lead women to prefer a very thin body for themselves (Wagner Oehlhof et al, 2009). Objectification theory contends that in Western society, women internalize the societal message that their bodies are objects, valuable as something to be gazed upon or used by others (Fredrickson & Roberts, 1997).

Subsequent to self-objectification, females often learn to view themselves as objects to be observed (i.e., objectified body consciousness) (Fitzsimmons-Craft, Bardone-Cone, & Kelly, 2011). According to feminist theory, the female body is constructed (at least socio-culturally) as an object to be viewed by others, particularly by men. For example, experiences of sexual objectification among black women may be shaped in part by particular racist ideologies and stereotypes that do not apply to white women, and therefore produce many different responses in terms of self-objectification, body shame and disordered eating (Watson, Robinson, Dispenza, & Nazari, 2012).

University plays a critical role in the development of young people who enter it. Entering university life for many students is viewed as a dynamic period for body image development, which is also a time where self-objectification may lead them to be over critical of their bodies (Gillen & Lefkowitz, 2012). University students are increasingly subjected to the opinions and perceptions of the opposite sex, peers, friends, and media. One of the common reasons given by girls seeking to lose weight is a perception that young males prefer thin women (Szabo & Allwood, 2006).

Just as others view and evaluate women's bodies or body parts as objects, women themselves learn to view their own bodies as objects that must be constantly monitored to ensure that they conform to internalized cultural standards (Forbes, Jobe, & Revak, 2006). A woman's awareness of her failure to meet these standards leads to, among other things, body shame (Forbes et al., 2006). In view of their dissatisfaction with their bodies university students

may be motivated to make independent decisions regarding their health-related activities, which include participation in physical activity and incorporating a healthy diet into their daily routines (Nolan & Surujlal, 2012). On the other hand, identification with a specific cultural group may serve as a buffer against behaviours that are risky such as the drive to be thin or dissatisfaction with the body (Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010).

The process through which women internalize social expectations about their bodies is referred to as self-objectification. Put differently, self-objectification refers to the way that some women view themselves, and especially their bodies, as an object to be valued for external appearance rather than internal qualities. In general, objectification theory (Fredrickson & Roberts, 1997) provides a primary theoretical framework that can be applied to this study to facilitate the understanding of the relationship between self-objectification, body dissatisfaction, and engagement in health related behaviours. In addition, the concept of cultural identity is also included in the model of the study. Empirical evidence conducted with the concept of ethnic identity suggests that identification with one's culture and/or cultural group seems to mediate the relationship between self-objectification and undesirable consequences such as body dissatisfaction and health risk behaviours (Mussap, 2008; Mwaba & Roman, 2009; Ogana & Ojong, 2012; Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010).

2.4 Literature Review

The literature review explores previous studies conducted among females in relation to self-objectification, body dissatisfaction and engagement in health related behaviours, and cultural identity as a moderator. Though studies have been conducted on the relation between self-objectification and body dissatisfaction, there is limited research regarding the role of self-objectification in health related behaviours. Moreover, less is known in South Africa about the impact of cultural influences on relationship between self-objectification and both body dissatisfaction and health related behaviours. Research in Western cultures has demonstrated that identification with a particular culture will most

likely influence one's beauty standards, and the attainment of the ideal. Achieving the thin-ideal as an ideal beauty standard may entail engaging in health-related behaviours such as physical activity, controlled eating and non-smoking habits. Interest in the present study is on African university students. Cultural factors may play a unique role in this group. The study also includes a demographic variable such as the socio-economic status of the women, since it too may be an important factor in the perception of one's body image.

2.4.1 Internalization of socio-cultural beauty standards and body dissatisfaction

Women often become dissatisfied with their bodies because they are unable to meet the socio-culturally determined beauty ideal, an ideal that prescribes an extremely thin figure for them (Myers & Crowther, 2007). The thin ideal and body dissatisfaction had become widely international in nature because of globalised Western media exposure (Swami et al., 2010). Internalization of the Western thin ideal has been proposed to explain the rise of body dissatisfaction and disordered eating, not only among women in the West, but among non-Western women too (Mussap, 2008). Because of the pressure and the way they perceive their bodies, women engage in certain health related behaviours such as smoking, dieting and engaging in physical activities such as exercise, with the aim of losing weight. Some motives for exercise and for losing weight, particularly appearance based motives, can be associated with negative outcomes (Vartanian, Wharton, & Green, 2011) which may impact negatively on the women's quality of life (Wilson, Latner, & Hayashi, 2013).

Research has shown that the degree of satisfaction on one's body image is related to self-esteem, identity and self-worth (Crocker & Knight, 2005). For example, females living in a culture that objectifies the female body may lead women to be overly critical of their bodies, suggesting that women consistently wish to conform to the demands of their culture (Gillen & Lefkowitz, 2006). They strive to achieve thinness because that is what is generally accepted in society as the standard for beauty (Akanni & Koleoso, 2017; Peltzer & Pengpid, 2012; Petrie, Greenleaf, & Martin, 2010). Though men are also vulnerable to self-

objectification (Hebl, King, & Lin, 2004), studies have shown that more females than males are dissatisfied with their body image (Akanni & Koleoso, 2017; Forrest & Stuhdreher, 2007; Gillen & Lefkowitz, 2012). Furthermore, Gillen, Markey, and Markey (2011) found that women were more likely to engage in both healthy and unhealthy means of losing weight.

2.4.2 Internalization of socio-cultural beauty standards and smoking

Smoking is one of the major preventable causes of disease and premature death globally (World Health Organization, 2009), and is associated with diseases such as lung cancer, chronic obstructive pulmonary disease, ischemic heart disease, stroke, and increased risk of mortality (Thun et al., 2013). While considerable efforts have been made to reduce smoking over the past years (Li, 2013; Reddy, Zuma, Shisana, Jonas, & Sewpaul, 2015), there have been increases in smoking among South African females (Reddy et al, 2013; Reddy et al., 2015). This may be an indication that the social and cultural constraints that prevented many women from smoking in previous years are weakening in countries such as South Africa (World Health Organization, 2010). However, in many South African communities, smoking is still believed to be more socially unacceptable among women (King et al., 2003; Reddy et al., 2015; Reddy et al., 2013), and it is perceived as taboo, disgraceful and shameful for black women to do so. Those women who smoke do so secretly, or only with trusted others (Li, 2013; Marks, Steyn, & Ratheb, 2001).

In spite of the known disadvantages of smoking (Kazi & Coopoo, 2010), a class of women persist with the behaviour. They see value in the behaviour. Though smoking is driven by multiple factors, some of the most common reasons that people smoke include the perceived impact of cigarettes on weight control, eating, and mood (Crisp, Sedgwick, Halek, Joughin, & Humphrey, 1999; Saules et al., 2009). A great deal of evidence has shown that smoking behaviour among women is often motivated by the beliefs that smoking helps to control eating and weight (Copeland, Spears, Baillie, & McVay, 2016).

Women are more likely than men to believe that smoking helps to control their weight, and this relationship may be more pronounced in those with eating disturbances (McKee, Nhean, Hinson, & Mase, 2006). Smoking among individuals with a binge\purge eating disorders subtype is prevalent than it is among other eating disorders subtypes (Anzengruber et al., 2006; Krug et al., 2008). Among college women, more frequent smokers experienced greater levels of body dissatisfaction, dieting, eating pathology, weight concerns, and the drive for thinness (Copeland et al., 2016; Saules et al., 2009). Weight control smokers may also be more likely to smoke in conjunction with eating\snacking to control appetite (Jenks & Higgs, 2007). It is likely that they smoke before or after meals to help control their appetite, and this pattern of smoking leads to fewer cravings for food (Jenks & Higgs, 2007).

The taking of non-prescribed stimulants is positively related to disordered eating behaviours, body image problems and other drug use among a minority of young adults (Jeffers & Benotsch, 2014) and adolescent females (Parkes, Saewyc, Cox, & MacKay, 2008). Female adolescents who perceived themselves as overweight, were trying to lose weight, or who had dieted in the past were more likely to use cigarettes, amphetamines, and cocaine (Parkes et al., 2008). It is because these types of stimulants have been found to have appetite-suppressing qualities and are therefore more likely to be used by individuals who exhibit eating-disordered behaviours (George & Waller, 2005; Herzog, Franko, & Dorer, 2006). For example, nicotine suppresses appetite (Jo, Talmage, & Role, 2002) and decreases food intake (Donny, Caggiula, Weaver, Levin, & Sved, 2011; Mineur et al., 2011) through mechanisms that are likely a result of both physiological and behavioural factors (Audrain-McGovern & Benowitz, 2011).

Another challenge with regard to smoking is cessation and relapse among dieters, even after attaining their desired weight. Studies have shown that participants reported weight gain after cessation of smoking (Landrau-Cribbs, Cabriales, & Cooper, 2015; White, Masheb, & Grilo, 2010), which then prompted smoking relapse (Landrau-Cribbs et al., 2015). Among individuals who binge eat, smoking cessation was reported to be less successful (White,

Peters, & Toll, 2010). There is a direct relationship between the level of cessation related weight concern with the level of smoking (Cavallo et al., 2010; Copeland & Carney, 2003).

2.4.3 Internalization of socio-cultural beauty standards and eating habits

University attendance has a strong impact on the lifestyle of many students, and often inculcates unhealthy eating habits (Nelson & Story, 2009; Papadaki, Hondros, Scott, & Kapsokefalou, 2007), and sets in a pattern of weight gain especially in the early years (of university) (Freedman, 2010; Gillen & Lefkowitz, 2011; Gunes, Bekiroglu, Imeryuz, & Agirbasli, 2012). A transition from a home as well as the school environment to university results in a lifestyle change; reorientation of eating behaviours is part of the package (Brunt & Rhee, 2008; El Ansari, Stock, & Mikolajczyk, 2014; Smith-Jackson & Reel, 2012; Spanos & Hankey, 2010). Whereas the home environment guaranteed healthy eating habits, student life does not (Smith-Jackson & Reel, 2012). Having increased choice over one's food intake and preparation (Papadaki et al., 2007; Smith-Jackson & Reel, 2012), easy access to unhealthy food options (Smith-Jackson & Reel, 2012; Hilger, Loerbroks, & Diehl, 2017), and high cost and time required to prepare healthy food (Cluskey & Grobe, 2009; Hilger et al., 2017; Spanos & Hankey, 2010) are amongst the barriers to healthy eating.

According to the World Health Organization (2016), a healthy diet should include, for instance, high consumption of fruits, vegetables, and whole grains, in addition to low consumption of saturated fats, salt, and refined carbohydrates. Low intake of simple healthy dietary practices such as eating fruit and vegetable daily and fibre intake (Kazi & Coopoo, 2010; Peltzer, 2001), breakfast or meal skipping (Larson, Laska, Story, & Neumark-Sztainer, 2012; Kazi & Coopoo, 2010), high levels of fast food consumption (Larson et al., 2012), fad diets and greater consumption of snacks are among the factors common in university students comprising females, which may also place them at nutritional risk (Kazi & Coopoo, 2010).

Body dissatisfaction is associated with more health-compromising behaviours, such as unhealthy weight control behaviours, dieting, binge eating, and less physical activity (Aşçi, Tüzün, & Koca, 2006; Neumark-Sztainer et al., 2006). Long-term effects of harmful dieting and the use of unhealthy weight control strategies on the other hand, are associated with weight gain over time in most women (Chaput et al., 2009; Lowe et al., 2006; Neumark-Sztainer, Wall, Story, & Standish, 2012). An explanation is that in general, lower body satisfaction does not serve as a motivator for engaging in healthy weight management behaviours; instead it appears to predict behaviours that may place females at risk for weight gain and poorer over-all health (Neumark-Sztainer et al., 2006), as the search for weight loss through dieting may result in unbalanced nutrition (Ribeiro-Silva et al., 2018).

Study findings indicate that disordered eating behaviours are not just limited to adolescence, but continue into adulthood, suggesting that early use is likely to set the stage for on-going eating-related problems (Neumark-Sztainer, Wall, Larson, Eisenberg, & Loth, 2011). This drive for weight loss which is largely unachievable for most women, may underlie the high levels of body dissatisfaction seen in females throughout their lives (Coker & Abraham, 2014). The increase of body fat mass that occurs in girls throughout adolescence may prompt them to engage in weight loss behaviours (Mendes et al., 2014). Strong social pressure experienced by females to become thin (Alveranga & Dunker, 2014; Littleton & Ollendick, 2003), is also one of the factors explaining the high of dieting even among those who are normal weight (Mendes et al., 2014) and those exhibiting no eating disorders (Coker & Abraham, 2014).

Friends' behaviours can act as social pressure within a peer group. For example, adopting behaviours such as skipping a meal, is linked to peer acceptance during adolescence and is paramount in an attempt to enhance social status (Eisenberg & Neumark-Sztainer, 2010). Friends may also influence one another's uptake of disordered eating behaviours through more overt exchanges, such as critical comments about weight or appearance (Shomaker & Furman, 2009).

Family member's influence in a form of weight-related talk, weight teasing or mocking, contribute in the influence of body dissatisfaction and unhealthy weight control behaviours and binge eating (Neumark-Sztainer et al., 2010; Smith-Jackson & Reel, 2012). Parent comments about one's own weight and encouragement of daughter to diet, particularly by mothers, and maternal dieting, is associated with several problematic weight-related outcomes in girls (Neumark-Sztainer et al., 2010). However, media influence also play a role in the development of body image problems (Alvarenga & Dunker, 2014; Francisco et al., 2015; Greenwood, 2009) and eating disturbance (Francisco et al., 2015). Exposure to idealized bodies (such as thin bodies), and weight loss pressure from media messages (for example TV and magazines), and the acceptance or internalization of messages contribute to the development of body dissatisfaction among young adults (Alvarenga & Dunker, 2014).

2.4.4 Internalization of socio-cultural beauty standards and physical activities

Regular physical activity is known to have a host of health-related benefits for physical and mental wellbeing. The results show that the use of different types of exercise among women is associated with negative body image outcomes (Prichard & Tiggemann, 2007). Lifestyle changes in diet and physical activity are critical for maintaining the ideal body weight (Kazi & Coopoo, 2010), however, how one perceives her body will determine the level of their physical activity (Pengpid & Peltzer, 2017). In particular, exercising to lose weight, to improve body tone, and to improve attractiveness has emerged as the mechanism through which women focus on the reasons of being more dissatisfied with their physical selves, regardless of the associated health and fitness benefits (Prichard & Tiggemann, 2007).

Even women who exercise regularly experience negative body image, which is linked to the possibility that they may be working primarily to feel more physically attractive and to increase their perceptions of others viewing their bodies more positively (Lowery et al., 2005). However, exercising does not appear to make them feel any better about their bodies (Lowery et al., 2005). This is likely because exercise is a slow and challenging means of appearance

improvement that does not instantly change a woman's shape and consequently sets the women up for disappointment (Prichard & Tiggemann, 2007).

There are indications that physical activity declines among female young adults' transition to early adulthood, when entering college or university (Bloemhoff, 2010; Kwan, Cairney, Faulkner, & Pullenayegum, 2012; Mantilla-Toloza, Gómez-Conesa, & Hidalgo-Montesinos, 2011; Pengpid & Peltzer, 2013). The physical inactivity seems to further escalate into older adulthood contributing to less improved health and the prevention of non-communicable diseases (Peltzer & Phaswana-Mafuya, 2012). A high percentage of female students has been found to engage in low physical activity (Pengpid & Peltzer, 2017), and less healthy dietary habits (Kazi, & Coopoo, 2010; Pengpid & Peltzer, 2013). Nonetheless, various factors appear to contribute to physical inactivity. They include, amongst others, female gender, socio-economic status (Bloemhoff, 2010; Li, 2013; Peltzer, 2002; Shibata, Oka, Harada, Nakamura, & Muraoka, 2009), health behaviours such as smoking (Moreno-Gómez et al., 2012; Romaguera et al., 2011), being overweight or obese (Suliga, Wronka, & Pawlińska-Chmara, 2011), inadequate fruit and vegetable consumption (Cilliers, Senekal, & Kunneke, 2006; Romaguera et al., 2011) and those at higher risk of depressive symptoms (Cao et al., 2012; Elliot, Kennedy, Morgan, Anderson, & Morris, 2012).

There is an association between adequate dietary behaviours and health enhancing physical activity among university students (Pengpid & Peltzer, 2017), where physical activity might mediate dietary health behaviours (VanKim, Laska, Ehlinger, Lust, & Story, 2010). Increasing physical activity and reducing food intake (dieting) are considered the cornerstones in the prevention and treatment of obesity (Holmes, Ekkekakis, & Eisenmann, 2010). Increase in physical activity with time and not physical activity at baseline is associated with weight loss, which indicates that higher physical activity may be needed to achieve weight loss (Van Strien, Herman, & Verheijden, 2012).

A shift in the cultural ideal of physical attractiveness where preference is now increasingly being given to a female athletic ideal rather than thinness (Homan, 2010) was documented. This athletic-ideal internalization is associated with obligatory exercise behaviours as well as eating concerns (obsessive thinking about eating, feeling guilty about eating) amongst young women (Pritchard, Parker, & Nielson, 2011). An association of athletic-ideal internalization with a range of exercise behaviours (such as compulsive exercise) and disordered eating which includes dieting, and bulimic symptoms among women, was found in a study by Bell, Donovan, and Ramme (2016). Media influence such as exposure to images of lean athletic women also poses an increase in body dissatisfaction (Homan, McHugh, Wells, Watson & King, 2012; Swami et al., 2010), and this ideal is a challenge and equally unrealistic for women to strive towards (Bell et al., 2016).

Exercises such as practicing yoga have been found to be associated with enhanced body satisfaction among young adults with a history of body dissatisfaction (Neumark-Sztainer, MacLehose, Watts, Pacanowski, & Eisenberg, 2018). Yoga has been found to enhance body awareness, decreasing self-objectification and eating disorder symptoms among women (Carei, Fyfe-Johnson, Breuner, & Brown, 2010; Impett, Daubenmier, & Hirschman, 2006). Thus, it seems that there are occasions when exercise may play a significant role in the development and maintenance of body image concerns (Prichard & Tiggemann, 2007).

2.4.5 Cultural identity as a moderator between self-objectification and both body dissatisfaction and health related behaviours

Perceptions about beauty differ across countries and cultures. Although body shame is a shared experience to which all women are vulnerable, regardless of ethnic background, specific contributors to body shame vary among women from different ethnic backgrounds (Schaefer et al., 2018). The body, therefore, is culturally considered in terms of how it is maintained, enlarged or reduced (Ogana & Ojong, 2012). Identification with one's culture has been shown to mediate the relationship between self-objectification and undesirable

consequences such as body dissatisfaction and health risk behaviours (Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010).

For example in black African culture being overweight/fat as a woman is traditionally viewed as symbolic of wealth, autonomy, attractiveness, happiness (Puoane et al., 2005), looking respectable, and allowing one to engage in sport activities that require strength (Puoane et al, 2010). Full-figured women are seen as spousal material and are sometimes envied by both men and women (Mastamet-Mason, 2014; Ogana & Ojong, 2012) in the black community. Thus, positive perceptions about body image was evident among black South African female university students (Mwaba & Roman, 2009; Nolan, & Surujlal, 2012). The students reported feeling confident about their physical attractiveness, being satisfied with most areas of their body, valuing fitness (Nolan & Surujlal, 2012), enjoying going out to social occasions, not engaging in unhealthy weight-control behaviours and feeling that their body shape did not in any way adversely affect their lives (Mwaba & Roman, 2009).

What was observed with black students in South Africa also applied to black students in the US. African American students who were acculturated into black culture had a positive body image perception and aspired for a healthier rather than acceptable body size (Aruguete, Nickleberry, & Yates, 2004; Jefferson & Stake, 2009). The results of the studies suggest that when women are rooted with their own culture, it is likely that they will accept the cultural standard of an ideal body (Yam, 2013). Thus, knowledge of and identification with one's own culture may enhance willingness and ability to overlook and critique the dominant culture (Sabik, Cole, & Ward, 2010; Turnage, 2004). Furthermore, identification with a specific cultural group may serve as a protective factor against risky behaviours such as the drive for thinness or body dissatisfaction among women (Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010).

The differing perception of ideal beauty between black women and their Western counterparts could further be attributed to differences in how individuals identify with their culture (Mastamet-Mason, 2014; Mwaba & Roman, 2009; Ogana & Ojong, 2012). In the Western\Caucasian community

where the ideal body is thin with very little body fat, lean body size is associated with beauty, health and happiness (Puoane et al., 2005), and with positive traits and outcomes such as intelligence and success (Evans, 2003). However, high levels of ethnic identity in the Western culture may intensify, rather than buffer, the association between pressure for thinness and body preoccupation among women (Phan & Tylka, 2006; Sabik et al., 2010). The thin ideal promoted by predominant standards of beauty can lead to negative outcomes such as self-objectification, depression and disordered eating (Fredrickson & Roberts, 1997).

Although black African women hold different views concerning ideal beauty and body ideal to their Western counterparts (Mwaba & Roman, 2009), consensus is emerging that there are health benefits associated with a smaller body size. Thinness is perceived as having an advantage of being less vulnerable to the development of chronic non-communicable diseases (Ogana & Ojong, 2012; Puoane et al, 2010; Sabik et al, 2010). Aside from being influenced by health benefits, black African women may be changing their views about beauty standards because of media influence. The growing influence of Western media in South Africa appears to be swaying many young women toward seeking to attain the Western images of ideal beauty and attractiveness (Mciza et al., 2005; Mwaba & Roman, 2009; Ogana & Ojong, 2012). As Western culture continues to spread internationally, and as Western societies continue to increase in cultural and ethnic diversity, it will become more important to understand cross-cultural influences on women's body image (Mussap, 2008).

2.4.6 Demographic variables related to self-objectification, body dissatisfaction and engagement into health related behaviours among females

Demographic factors also play a role in the perception of body image among black females (Swami et al., 2010; Thomas, 2010). A study comparing black and white adolescent females in South Africa found that urban black females were closer to urban white female, than rural black females regarding their preference for slimness (Szabo & Allwood, 2006). This is supported by Swami

et al. (2010) who indicated that rural female participants in Malaysia and South Africa identified heavier figures as the most physically attractive. However, growing numbers of rural women, mostly under age 35 years, are keener than their older counterparts to change their views to the ideal thin body (Ogana & Ojong, 2012).

On the other hand, body dissatisfaction (Duong & Roberts, 2016), obesity among females from high income families, and living in urban dwellings (Peltzer, Phaswana-Mafuya, & Ramlagan, 2011; Puoane et al., 2002; Steyn, Nel, Parker, Ayah, & Mbithe, 2011), was found. Female urban dwellers become overweight and obese to the detriment of their health because they tend to engage in fewer physical activities once they have migrated from rural areas (Ogana & Ojong, 2012). This is further attributed to them walking less, driving more (Candib, 2007), not having enough time invested in cooking healthy meals, leading to the likelihood of eating fast food which then leads to weight gain (Pretorius & Sliwa, 2011).

Engagement in health risk behaviours appears also to be influenced by demographic factors. Smoking is one such health risk behaviour. There is a significant difference in tobacco use between the provinces and different racial groups in South Africa, possibly reflecting differences in sociocultural and demographic factors (Reddy et al., 2015). For example, tobacco smoking rates are very high among so-called “coloured” men and women (Peer, Bradshaw, Laubscher & Steyn, 2009; Reddy et al., 2015); an ethnic group representing a high proportion of the Western and Northern Cape populations (Reddy et al., 2015). Furthermore, a high prevalence of smoking among female “coloured” university students (Malinga, 2011) and female white adolescent students (King et al., 2003) as compared to black female students was found. However, it is envisaged that this order might change with more young black women taking up smoking (King et al., 2003).

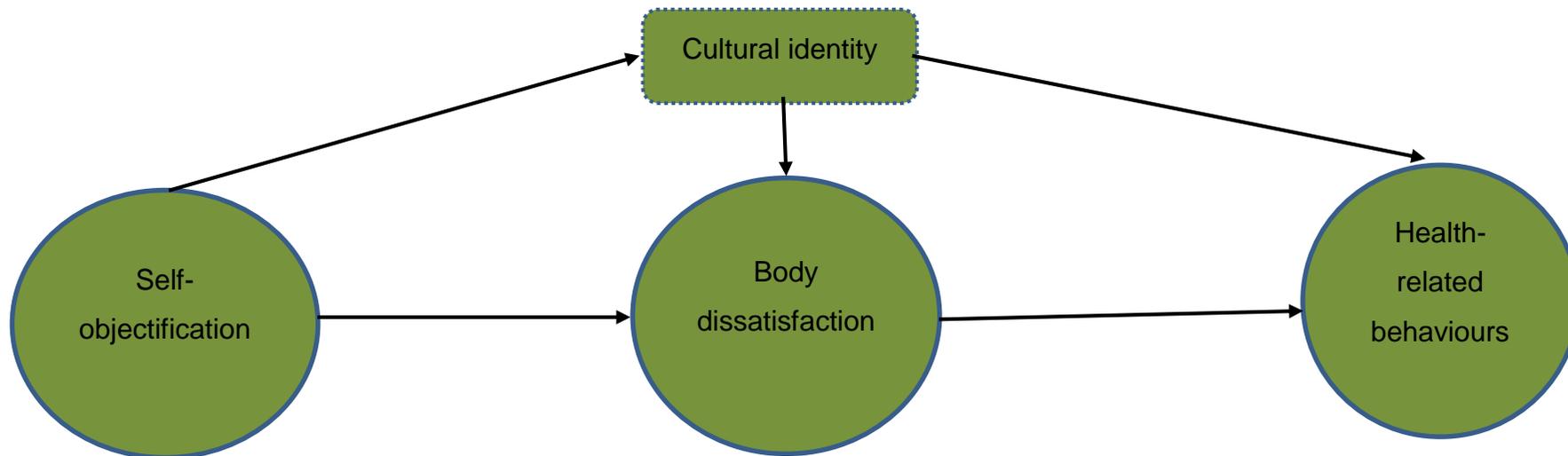
2.5 Study Model to be Tested

In this study, a complex model is proposed. I envisage that self-objectification will directly lead to body dissatisfaction and indirectly to engagement in some health related behaviours. Body dissatisfaction will be directly related to health related behaviours and serve as motivation to engage in healthier eating and physical activity behaviours and avoidance of smoking. Cultural identity will moderate the relationship between self-objectification and both body dissatisfaction and health related behaviours. The following model presents the relationship between the study variables:

2.6 Summary

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

Figure 1:
Model of the Study



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 to collect data was a cross-sectional, correlational design, with a quantitative methodological framework. Questionnaires were used to collect data. Data were collected from them at a single session, and no follow-up data collection was carried out.

3.3 Study Variables

Table 1 below lists the variables of the study:

Table 1:

Variables of the Study

Independent variables:	Moderator:	Dependent variables:	
Self-objectification (thin-body ideal, media, family and peer pressures)	Cultural identity	Body dissatisfaction	Health-related behaviours (non-smoking, healthy eating habits, physical activity)

3.4 Study Population and Sampling Design

The study included 411 University of Limpopo female students aged between 16 and 37 years (mean age = 21 years, standard deviation = 2.55). They were drawn from different study levels and different faculties within the University of Limpopo. Convenience sampling was employed to recruit participants for the study. The sample size itself considered to be adequate for this study as it would permit the use of more powerful statistical procedures such as structural equation modelling (SEM).

3.5 Procedure for Data Collection

Lecturers from different study levels and courses were approached to provide time to introduce the study, solicit participation, and collect data. An attempt was made to select models across the spectrum of faculties of the university. The aims and objectives of the study were explained to all participants before the study was conducted. (Further details in this regard are provided immediately below). However, the researcher was careful not to make prospective participants aware of what the implications of the variables were. Data collection took place at the beginning of the lecture and self-administered questionnaires and consent forms were handed to female students who volunteered to participate. Participants were required to complete the questionnaire in hard-copy format.

3.6 Ethical Considerations

The study was approved by the University of Limpopo Ethics Committee (Appendix 1). All principles relating to ethical conduct of research using human subjects were observed and the rights of participants were respected. Informed consent was obtained from the participants before data collection begun. 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. There is no scientific, empirical evidence that completing a questionnaire of this nature will cause any reasonable harm. Nonetheless, measures were put in place in case anyone expresses discomfort with the questionnaire. None of the respondents reported any form of distress by the questionnaire during data collection.

3.7 Instruments for Data Collection

The following questionnaires 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, domicile, ethnicity, level of study and the socio-economic status of their families of origin.

3.7.2 Sociocultural attitudes towards appearance questionnaire-4 (SATAQ-4)

This study used the 22-item SATAQ-4 (Schaefer et al., 2015) to measure the internalisation and endorsement of sociocultural beauty standards in mainstream Western media. The five subscales of SATAQ-4 are: Thin-ideal internalization, Athletic-ideal internalization, Media pressures, Family pressures, and Peer pressures. Items were rated on a 5-point Likert scale ranging from 1 (*Definitely disagree*) to 5 (*Definitely agree*). Examples of questions on SATAQ-4 are “I want my body to look very lean” and “My peers encourage me to get thinner”. The SATAQ-4 validation demonstrated that it shows good validity, reliability and internal consistency (Schaefer et al., 2015). In a study by Rakhkovskaya and Warren (2016), internal consistency was adequate among African Americans with $\alpha = 0.79$ for SATAQ-Thin internalization, and $\alpha = 0.89$ for SATAQ-Pressure. In the current study, the reliability estimate for thin internalization was $\alpha = 0.566$, muscular

internalization $\alpha = 0.832$, family pressure $\alpha = 0.727$, peers pressure $\alpha = 0.829$ and media pressure was $\alpha = 0.850$.

3.7.3 Body parts satisfaction scale-revised (BPSS-R)

The seven-item satisfaction with body factor from the BPSS-R (Petrie et al., 2002) was used to measure satisfaction with parts of one's body (e.g., thighs, stomach). Each body part was rated using a 6-point Likert-type scale that ranges from 1 (*Extremely dissatisfied*) to 6 (*Extremely satisfied*). Cronbach's alpha of $\alpha = 0.86$ for the satisfaction with body factor was reported in a study by Rogers Wood and Petrie (2010) among African American female undergraduate students. In the current study, the estimate of reliability was found to be $\alpha = 0.803$.

3.7.4 Overall level of satisfaction with body

In addition to BPSS-R, a single item that measures individuals' overall level of satisfaction with their bodies was included (Petrie et al., 2002). The measure was rated using a 6-point Likert-type scale that ranges from 1 (*Extremely dissatisfied*) to 6 (*Extremely satisfied*). The correlation between the overall score obtained on the BPSS-R and a single-item measure of body satisfaction was $r = 0.656$ in the current study. Thus, convergent validity was established for the BPSS-R.

3.7.5 Eating choices index (ECI)

The ECI (Pot, Richards, Prynne, & Stephen, 2014) was developed as a simple index that discriminate those who make healthy choices from those who do not, for use in analysis of large surveys, with an emphasis on eating behaviours rather than quantities of foods or nutrients consumed. The ECI score includes four components: (i) consumption of breakfast, (ii) consumption of two portions of fruit per day, (iii) type of milk consumed and (iv) type of bread consumed, each provides a score from 1 to 5 (Pot et al., 2014). The ECI score may be culture-specific and it is likely that the score could be applicable in most

Western populations; however, it is also capable of adaptation to other populations (Pot et al., 2014). In the current study, the reliability estimate for the ECI was $\alpha = 0.238$ with all items indicating a low reliability. Since the ECI scale had a low reliability, the scale was excluded from further analysis.

3.7.6 Godin leisure-time exercise questionnaire (GLTEQ)

The GLTEQ, was used as a self-administered, simple questionnaire to assess patterns of exercise behaviour during the participants' leisure time (Godin & Shepard, 1985). It included the following item: "Over the last 7 days (i.e., the last week), how many times on average did you do the following kinds of exercise (Mild to strenuous exercise) for more than 30 minutes during your free time?" The instrument has been found to have a reliability coefficient of $\alpha = 0.84$ (Godin & Shepard, 1985). In the current study, the total estimate of reliability was found to be $\alpha = 0.564$. In addition, a single-item physical activity (PA) measure of absolute physical activity which has 3 response options asking respondents what best describes their activity level with "Vigorously Active", "Moderately Active" and "Seldom Active" as options was included and answered on the same scale (Gill, Jones, Zou, & Speechley, 2012). Gill et al. (2012) used the item successfully in a study with Canadian or Korean Veteran War participants and the results indicated test-retest reliability with a kappa value of 0.75. In the current study, the total estimate of reliability is $\alpha = 0.661$.

3.7.7 The weight control smoking scale (WCSS)

The study used the WCSS (Pomerleau et al., 1993), to measure consequences of smoking. The scale consists of 3 items, namely: 1) "I smoke to keep from gaining weight"; 2) "Smoking helps me control my appetite"; and 3) "I don't get so hungry when I smoke." Response options are 0 (not at all), 1 (a little), 2 (quite a bit), and 3 (very much so). The study findings by Pomerleau and Snedecor (2008) in the U.S.A suggest that the WCSS is a reliable and valid instrument for identifying a broad range of weight-concerned smokers. Reliability was estimated at a Cronbach's alpha of $\alpha = 0.83$. In the current study, the total estimate of reliability was found to be $\alpha = 0.409$ which points to a relatively lower

reliability estimate. One item from the scale was removed to improve the scale's reliability. Reliability was then estimated at $\alpha = 0.524$. Additionally, two single items, one with an open ended response format, and another a "yes-no", closed options or polar item, were used to assess smoking behaviour. The items were administered as follows: first, the respondents were asked if they smoked or not. Those who answered in the affirmative were asked to state how many cigarettes they smoke per day.

3.7.8 The S/I-ICI

The S/I-ICI (Mashegoane & Makhubela, 2018) was used in the study to investigate whether students consider themselves culturally inclined. It consisted of 7 items which were rated on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The items include "I live my life according to the guidance and precepts of "setho"/"isintu"; "I do my best to observe customs prescribed by "setho"/"isintu" and "I am more comfortable in social situations when I conduct myself according to the guidelines of "setho"/"isintu". The total estimate reliability for the S/I-ICI in the current study was $\alpha = 0.933$. The multi-group ethnic identity measure-revised (MEIM-R) (Phinney & Ong, 2007) was used to establish convergent validity for the S/I-ICI. The MEIM-R will be described below. The correlation between the S/I-ICI and the MEIM-R in the current study was $r = 0.601$.

3.7.9 MEIM-R

The MEIM-R (Phinney & Ong, 2007) was used in the study to briefly assess affiliation with one's ethnic group. It consisted of 6 items which assess exploration of and commitment to one's ethnic identity. Items were rated on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Sample items include "I have often talked to other people in order to learn more about my ethnic group" and "I feel a strong attachment towards my own ethnic group". Scores for the three-item subscales and the overall scale were calculated by averaging item values. The two subscales showed good reliability

with a Cronbach's alpha of $\alpha = 0.81$ for the overall scale (Phinney & Ong, 2007). In the current study, the total estimate of reliability was found to be $\alpha = 0.853$.

3.8 Summary

In this chapter the research design, study variables, study population and sampling design were presented. Also included in the chapter is a description of the procedure used to collect data, the ethical principles followed in implementing the proposed study, and a description of each of the instruments used to collect data.

CHAPTER FOUR: RESULTS

4.1 Introduction

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

4.2 Plan for Analysing Data

Four hundred and eleven questionnaires were completed and included in the data analysis. The Statistical Package for Social Sciences (SPSS-25) program was used in conducting preliminary analysis of the data. Firstly, a descriptive analysis of demographic variables was performed. Frequency tables were generated to describe characteristics of the sample such as age, gender, family socio-economic status, domicile, level of study and ethnicity. SPSS was also used to determine scale parameters, including average scores of the sample on each of the study scales, and the internal consistency of the scales. Inferential statistics were used to reach conclusions and make inferences about the population that extended beyond the immediate data alone. The main analysis to test the hypotheses of the study was conducted with SEM. The latter was done on version 25 of the Analysis of Moment Structures (AMOS), an IBM SPSS Statistics module.

4.3 Demographic Characteristics of Participants

A total number of 411 questionnaires were included during data analysis. The ages were grouped into five categories. Table 1 indicates that the mean age of the participants was 21 (range = 16—37), and the majority of them (63.9%) were aged between 19 and 23 years. About sixty percent (60.1%) of them were undergraduate students. Most (69.9%) of the participants resided in the rural areas, and almost all (98.3%) of them indicated that their ethnicity was black. Similarly, nearly all (97.8%) of them indicated that their parents' ethnicity was

black. Most of the participants' family socio-economic status was within the lower middle-class (44.3%) and the working-class (37.2%) categories.

Table 2:
Demographic Variables of the Sample (N= 411)

	<i>F</i>	<i>%</i>	<i>Mean</i>	<i>S.D.</i>	<i>Minimum</i>	<i>Maximum</i>
Age			20.75	2.555	16	37
<19 yrs. Old	96	23.6				
19-22 yrs. Old	94	23.2				
21-22 yrs. Old	132	32.5				
23-24 yrs. Old	55	13.5				
>24 yrs. Old	29	7.1				
Domicile						
Rural	286	69.9				
Urban	123	30.1				
Student's ethnicity						
Black	404	98.3				
Indian	0	0.0				

		<i>F</i>	<i>%</i>	<i>Mean</i>	<i>S.D.</i>	<i>Minimum</i>	<i>Maximum</i>
	White	1	0.2				
	Coloured	3	0.7				
Mother's ethnicity							
	Black	404	98.3				
	Indian	0	0.0				
	White	2	0.5				
	Coloured	1	0.2				
Father's ethnicity							
	Black	400	97.3				
	Indian	0	0.0				
	White	1	0.2				
	Coloured	5	1.2				

	<i>F</i>	<i>%</i>	<i>Mean</i>	<i>S.D.</i>	<i>Minimum</i>	<i>Maximum</i>
Study level						
Level 1	123	29.9				
Level 2	25	6.1				
Level 3	99	24.1				
Level 4	138	33.6				
Level 5	22	5.4				
Socio-economic status						
Working class	153	37.2				
Lower middle class	182	44.3				
Upper middle class	54	13.1				
Upper class	5	1.2				

Note: Totals of variables may not equal 411 due to missing values.

4.4 Data Analysis

An SEM analysis was conducted to test the proposed structural model. Maximum likelihood (ML) estimation was applied to test the parameters of the evaluated model. Some of the participants included in the study had missing data. Inspection of missing data points showed that the pattern of the missing data was random and spread across all the measures of the questionnaire. In instances of missing data, this was replaced with participants' mean score from the respective measure. The following fit indices were used for determining the adequacy of the hypothesized model: these included the chi-square statistic to *df* ratio (χ^2/df), the root mean square error of approximation (RMSEA) along with its related 90% CI, the comparative fit Index (CFI), and the normed fit index (NFI). The models were accepted as providing good fit if $\chi^2/df < 1.5$, $p > 0.05$, CFI and NFI ≥ 0.95 (i.e., acceptable at > 0.9), and the RMSEA < 0.06 .

4.5 Results

4.5.1 Preliminary results: Correlations between all study variables

The correlation matrix shows that only the associations between the internalisation of socio-cultural beauty standards (thin ideal, masculine ideal, family pressure, pressure from peers, and media pressure) and body satisfaction were significant ($p < .05$). As such, only the pathways for significantly associated variables were included in the structural model.

4.5.2 Main analysis: Structural model

Overall, the fit of the model was acceptable. The model fit results for the associations are presented in Table 3. The hypothesized pathway (see Figure 2) was significant and in the expected direction. Internalization of socio-cultural beauty standards significantly predicted students' body satisfaction ($\beta = -0.426$, $p = 0.000$).

4.6 Summary

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

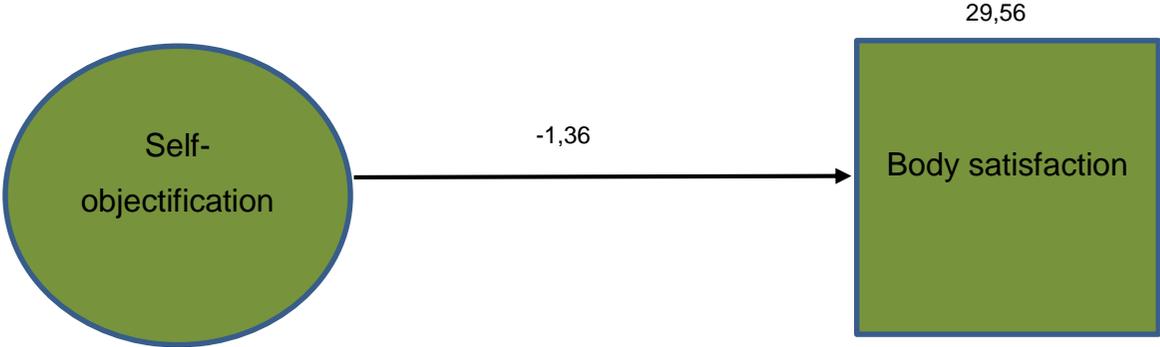
Table 3:

Body Satisfaction's Association with Socio-cultural Beauty Standards

	χ^2	<i>Df</i>	<i>CFI</i>	NFI	<i>RMSEA</i>	<i>90% RMSEA CI</i>
Model	48.804	9	0.92	0.90	0.10	0.07, 0.13

Note. $p > 0.05$; χ^2 = Chi-square test; df = degrees of freedom; CFI = Comparative Fit Index; NFI = normed fit index; RMSEA = root mean square error of approximation and its 90% confidence interval.

Figure 2: Hypothesized Model



CHAPTER FIVE: DISCUSSION

5.1 Introduction

The current chapter discusses the findings of the study in relation to the extant literature. It discusses the relations of self-objectification (as measured by the SATAQ-4) and body dissatisfaction; and lack of association between self-objectification and engagement in health related behaviours. It further discusses cultural identity's failure to act as a moderator between self-objectification and both body dissatisfaction and health related behaviours. Demographic variables related to self-objectification, body dissatisfaction, and engagement in health related behaviours among females are also discussed. The chapter also presents the limitations of the study, and makes recommendations based on the results.

5.2 Internalization of Socio-Cultural Beauty Standards and Body Dissatisfaction

The current study assessed how self-objectification, conceptualized as Internalization of socio-cultural beauty standards, is related to students' body dissatisfaction. Previous studies indicated that the growing influence of Western media has led to a changing perception of feminine beauty in African countries (Mastamet-Mason, 2014). This has resulted in many young women seeking to attain Western ideals of beauty and attractiveness (Mciza et al., 2005; Mwaba & Roman, 2009; Ogana & Ojong, 2012). Sociocultural pressure, including the thin-ideal as presented by the media, and social influence such as comments by family and friends to encourage a slender body type, has been linked to body dissatisfaction (Alveranga & Dunker, 2014; Myers & Crowther, 2007; Oehlhof, Musher-Eizenman, Neufeld & Hauser, 2009).

The current study hypothesized that female students who internalise socio-cultural beauty standards are more likely to experience body dissatisfaction. The results show that internalization of socio-cultural beauty standards

predicted body satisfaction among black African university students. An explanation to the findings in the current study may be that black South African university students reported feeling confident about their physical attractiveness, being satisfied with most areas of their body (Nolan & Surujlal, 2012) and feeling that their body shape did not in any way adversely affect their lives (Mwaba & Roman, 2009). Furthermore, body satisfaction was also reported among black female students (Aruguete, Nickleberry, & Yates, 2004; Jefferson and Stake, 2009) in other countries. This implies that societal pressure to be thin, which includes the media, peers and family, did not influence the students' dissatisfaction with their bodies in the context of the present study.

Although a shift regarding body image perception was found in a study by Peltzer and Pengpid (2012) which revealed that a minority of black African students expressed negative appearance orientation, the percentage is still lower as compared to Western students (Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010).

5.3 Internalization of Socio-Cultural Beauty Standards and Smoking

The current study hypothesized that female students who internalise socio-culturally sanctioned beauty standards are more likely to desist from smoking. There was no statistically significant relationship between internalization of the socio-cultural beauty standards and non-smoking found in the present study. Previous studies found that lower body satisfaction was predictive of smoking behaviour (Neumark-Sztainer et al., 2006). Though it is not precise from the previous studies regarding the relations of body satisfaction and abstinence from smoking, it can be argued that black South African female university students who reported positive perception of body image (Mwaba & Roman, 2009; Nolan, & Surujlal, 2012), indicated that they were not engaging in unhealthy weight-control behaviours and felt that their body shape did not in any way adversely affect their lives (Mwaba & Roman, 2009).

Furthermore, the increases in tobacco use among South African females (Reddy et al., 2013; Reddy et al., 2015) where the differences in tobacco use between the provinces and different racial groups possibly reflect differences in sociocultural and demographic factors (Reddy et al., 2015), may explain the lack of relationship between internalization of the socio-cultural beauty standards and non-smoking in the current study. Low prevalence of smoking was found among black female university students as compared to female coloured university students (Malinga, 2011) and female white adolescent students (King et al., 2003).

Even though studies found that the social and cultural constraints that prevented many women from smoking in previous years are weakening in some countries such as South Africa (World Health Organization, 2010), the current study concurs with previous studies in that, in many South African communities, tobacco is believed to be more socially unacceptable among women (King et al., 2003; Reddy et al., 2013; Reddy et al., 2015). It is perceived as taboo, disgraceful and shameful for black women to smoke, and usually those who do smoke do so secretly, or only with trusted others (Li, 2013; Marks et al., 2001). However, it is envisaged that this order might change with more young black women taking up smoking (King et al., 2003).

5.4 Internalization of Socio-Cultural Beauty Standards and Eating Habits

The current study hypothesized that female students who internalise socio-culturally sanctioned beauty standards are more likely to engage in healthy eating habits. No relationship between internalization of the cultural beauty standard and engagement in healthy eating habits was found in the current study. Low engagement in healthy eating habits despite the health benefits of a healthy diet may be influenced by the participants' reported satisfaction with their bodies in the current study. This finding may be explained by studies which found that university life has a strong impact on the lifestyle of many students (Nelson & Story, 2009; Papadaki et al., 2007). Low intake of simple healthy dietary practices such as daily intake of fruits, vegetables, and fibre among female university is not uncommon among students (Kazi & Coopoo, 2010;

Peltzer, 2001). Female students at university have increased choice over their food intake and preparation (Papadaki et al., 2007; Smith-Jackson & Reel, 2012), have easy access to unhealthy food options (Smith-Jackson & Reel, 2012; Hilger et al., 2017) and have reported the high cost and time required to prepare healthy food (Cluskey & Grobe, 2009; Hilger et al., 2017; Spanos & Hankey, 2010). All these factors combined may, rightly or wrongly, lead female students to reason that their eating habits are unrelated to their body shape. There is empirical support for this line of reasoning. Studies found that body dissatisfaction due to the strong social pressure experienced by females to be thin (Alveranga & Dunker, 2014; Littleton & Ollendick, 2003), does not serve as motivator for engaging in healthy weight management behaviours such as healthy eating (Neumark-Sztainer et al., 2006; Ribeiro-Silva et al., 2018).

5.5 Internalization of Socio-Cultural Beauty Standards and Physical Activities

The results of the current study found no statistically significant relationship between internalization of the socio-cultural beauty standards and participation in physical activity. The fact that how one perceives her body will determine the level of their physical activity (Pengpid & Peltzer, 2017) may explain the outcomes of the current study, where students reported satisfaction with their body. This may be the reasons for them not engaging in health related behaviours such as higher rates of physical activity. The study is in contrast with a five-year longitudinal study by Neumark-Sztainer et al (2006), which found that even those with lower body satisfaction engage in lower levels of physical activity and fruit and vegetable intake; and they instead engaged in higher levels of dieting and unhealthy weight control behaviours. The lack of relationship between internalization of the socio-cultural beauty standards and engagement into in higher rates of physical activity among university students in the current study may also be explained by the fact that a decline in physical activity among females when entering college or university was found in the previous studies (Bloemhoff, 2010; Kwan et al., 2012; Mantilla-Toloza et al., 2011; Pengpid & Peltzer, 2013).

Despite body image issues, regular physical activity is known to have a host of health-related benefits for physical and mental wellbeing. An association where physical activity might mediate dietary health behaviours was found (VanKim et al., 2010) among university students which may serve as motivator into maintenance of healthy lifestyle rather than only body image concerns. On the other hand, reports of body satisfaction in the current study may serve as a protective factor against findings in a study by Holman (2010) who reported a shift in the cultural ideal where preference is now increasingly being given to a female 'athletic ideal rather than thinness (Homan, 2010). This is a challenge which is equally unrealistic for women to strive towards (Bell et al., 2016).

5.6 Cultural Identity's failure as a Moderator between Self-Objectification and both Body Dissatisfaction and Health Related Behaviour

It was anticipated that cultural identity will moderate the association between self-objectification and both body dissatisfaction and health related behaviours among female students. No moderating effect was found in the current study. Although black participants clearly scored higher in black acculturation, the relationship between acculturation and eating attitudes failed to emerge. These results support a body of literature that shows ethnic differences in eating disturbances but suggest that acculturation may not fully explain the observed differences (Aruguete, Nickleberry, & Yates, 2004). Previous studies have found that identification with one's culture has shown to mediate the relationship between self-objectification and undesirable consequences such as body dissatisfaction and health risk behaviours (Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010). A study by Yam (2013) further indicated that women who identify with their own culture are likely to accept the culturally determined body ideal. These studies are in contrast with the current study which found that there was no statistically significant relationship of cultural identity as a moderator between internalization of the socio-cultural beauty standards and both body dissatisfaction and engagement into health-related behaviour. However, it can be argued that perceptions about beauty differ from countries and from cultures. The body is culturally considered in terms of how

it is maintained, enlarged or reduced (Ogana & Ojong, 2012) despite identification with one's culture.

Furthermore, previous studies found that ethnic identity may serve as a protective factor against the drive for thinness and body dissatisfaction (Rakhkovskaya & Warren, 2016; Rogers Wood & Petrie, 2010). A study by Sabik et al. (2010) further substantiate that knowledge of one's own culture as one of the factors, may enhance willingness and ability to overlook and critique dominant culture.

The results of the current study may be linked with previous studies which found that, black South African female university students reported positive perception about body image (Aruguete et al., 2004; Jefferson & Stake, 2009; Mwaba & Roman, 2009; Nolan & Surujlal, 2012) and not engaging in unhealthy weight-control behaviours (Mwaba & Roman, 2009; Nolan & Surujlal, 2012). This is further enhanced by the fact that in the black culture\community being overweight\fat as a woman is traditionally viewed as symbolic of wealth, autonomy, attractiveness, happiness and looking respectable (Puoane et al., 2005; Puoane et al., 2010) and that full-figured women are seen as spousal material, and are sometimes envied by both men and women (Mastamet-Mason, 2014; Ogana & Ojong, 2012).

5.7 Demographic Variables Related to Self-Objectification, Body Dissatisfaction and Engagement into Health Related Behaviours among females

Previous studies indicated that demographic factors also play a role in the perception of body image among female black population (Swami et al., 2010; Thomas, 2010). The current study included demographic variables such as age, gender, domicile, ethnicity and the family socio-economic status of students. The results in the current study indicated that majority of university students who were dominantly black and mostly from rural areas reported positive perception of body image. This is in corroboration with the previous studies by Swami et al. (2010) and Szabo and Allwood (2006) who found that

rural black females identified heavier figures as the most physically attractive compared to urban participants. However it could not be concluded for urban black females regarding their body image preference in the current study, as they represented the minority, despite the participant's overall satisfaction with their bodies.

Though the current study found body satisfaction among female university students in the age range of 19 to 23 with mean age of 21 years, the results partially corroborate with previous studies conducted in South Africa which found body satisfaction among female black population in different age groups (Mastamet-Mason, 2014; Mwaba & Roman, 2009; Ogana & Ojong, 2012; Puoane et al., 2005; Puoane et al., 2010). An exploration of the study representing different age ranges will make a better comparison and generalisation in this context. Nevertheless, it cannot be ruled out that growing numbers of rural women specifically under the age 35 are keener than older counterparts to change their perception to the ideal thin body (Ogana & Ojong, 2012). Majority of the students in the current study indicated that their family socio-economic status is within the lower middle class and the working class. The current study is also in agreement with the previous studies done by Duong and Roberts (2016) regarding dissatisfaction with body among high income females than those in the lower income families (Swami et al., 2010).

The study also concurs with the previous studies regarding non-engagement into health related behaviour among female black students. Factors identified in the previous studies which were found to contribute to physical inactivity include amongst others female gender, socio-economic status (Bloemhoff, 2010; Li, 2013; Peltzer, 2002; Shibata et al., 2009) and inadequate fruit and vegetable consumption (Cilliers et al., 2006; Romaguera et al., 2011); which may also be a factor in the current study because of satisfaction with their bodies. However health behaviour such as smoking found in the study by Moreno-Gómez et al. (2012) and Romaguera et al. (2011) is in contrast with the current study because non-smoking was found among participants in the current study. Furthermore, smoking behaviour was also found in the previous studies to be lower among black female students (King et al., 2003; Malinga,

2011), which explain the fact that there is a significant difference in tobacco use between different racial groups in South Africa, possibly reflecting differences in sociocultural and demographic factors (Reddy et al., 2015).

5.8 Conclusion

In conclusion, this study found that societal pressure to be thin did not influence black African university female students to be dissatisfied with their bodies. However, no statistically significant relationship was found regarding the students' internalization of socio-cultural beauty standards and engagement into health related behaviours. Cultural identity was also not found to mediate the relationship between self-objectification and both body dissatisfaction and engagement into health-related behaviours. The question still stands into what factors contribute in mediating the relationship between self-objectification and body satisfaction, as well as in non-engagement into health related behaviours among students. Furthermore, the students' non-engagement into health related behaviours such as healthy eating habits and engagement into physical activities is concerning, based on the reported health benefits of engaging in such activities.

5.9 Limitations of the Study

There were some limitations to this study that need to be noted when interpreting the findings. First, the study was homogenous in terms of gender (female only), age range and race, which restricted variability of the sample, thus, generalizability of the findings of this study to other populations is limited. Second, the sample was not diverse in terms of domicile and socio-economic status. Majority of the participants were from rural area as opposed to urban area (which was not equally represented). Most participants were from a low socio-economic status and working class which limited comparison to other socio-economic classes.

Third, data were collected via self-report, so participants may have underreported or simply chosen to present themselves in a more positive light.

Fourth, some of the measures of health behaviour were brief and based on self-report rather than on actual measurement, observations or clinical assessment. Fifth, the instrument used to measure the participants' eating choices in this study was originally adopted for the cultural group different from the current sample. The reliability of this scale to this cultural group was low.

5.10 Recommendations

Based on the findings of this study, it is recommended that future studies be conducted in different contexts, and include diverse cultures, age groups, gender, domicile, level of education and socio-economic status. Future research should focus on the use of comprehensive health behaviour measures and the development of health behaviour scales suitable for different cultural group. It is suggested that intervention programmes be aimed at promoting engagement into health-related behaviours such as healthy eating and participation into physical activities. Also interventions should continue empowering women to buffer against self-objectification and non-smoking in their communities.

Qualitative research in future studies is recommended to explore on their view related to body satisfaction and non-engagement into health related behaviours. Future studies are recommended to explore on other factors that may play a role in mediating the relationship between self-objectification and body satisfaction, as well as in non-engagement into health related behaviours among students.

5.11 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.

REFERENCES

- Aşçi, F. H., Tüzün, M., & Koca, C. (2006). An examination of eating attitudes and physical activity levels of Turkish University students with regard to self-presentational concern. *Eating Behaviors, 7*, 362–36.
- Akanni, O. O., & Koleoso, O. N. (2017). Body image among secondary school boys and girls in South-West Nigeria: The role of neuroticism and self-esteem. *Gender & Behaviour, 15* (3), 9560-9569.
- Alvarenga, M. S., & Dunker, K. L. L. (2014). Media influence and body dissatisfaction in Brazilian female undergraduate students. *Mexican Journal of Eating Disorders, 5*, 20-28.
- Anzengruber, D., Klump, K. L., Thornton, L., Brandt, H., Crawford, S., Fichter, M. M., ... LaVia, M. (2006). Smoking in eating disorders. *Eating Behaviors, 7*(4), 291–299.
- Aruguete, M. S., Nickleberry, L. D., & Yates, A. (2004). Acculturation, body image, and eating attitudes among Black and White college students. *North American Journal of Psychology, 6*(3), 393-404.
- Audrain-McGovern, J., & Benowitz, N. (2011). Cigarette smoking, nicotine, and body weight. *Clinical Pharmacology & Therapeutics, 90*(1), 164–168.
- Bell, H. S., Donovan, C. L., & Ramme, R. (2016). Is athletic really ideal? An examination of the mediating role of body dissatisfaction in predicting disordered eating and compulsive exercise. *Eating behaviors, 21*, 24-29.
- Bloemhoff, H. J. (2010). Gender- and race-related physical activity levels of South African university students. *African Journal for Physical, Health Education, Recreation & Dance, 16*(4), 25-35.
- Brunt, A. R., Rhee, Y. S. (2008). Obesity and lifestyle in U.S. college students related to living arrangements. *Appetite, 51*(3), 615–621.
- Candib, L. M. (2007). Obesity and diabetes in vulnerable populations: Reflection on proximal and distal causes. *Annual Family Medicine, 5*(6), 547–556.
- Cao, H., Qian, Q. W., Sun, Y., Weng, T. T., Wang, H., & Tao, F. B. (2012). Relationship on the prevalence of physical activity to depressive symptoms and satisfaction of school life among middle school students in Bengbu, Anhui province. *Zhonghua Liu Xing Bing Xue Za Zhi, 33*(2), 154-159.

- Carei, T. R., Fyfe-Johnson, A. L., Breuner, C. C., & Brown, M. A. (2010). Randomized controlled clinical trial of yoga in the treatment of eating disorders. *Journal of Adolescent Health, 46*, 346–351.
- Cash, T. F., & Pruzinsky, T. (2004). *Body image: A handbook of theory, research, and clinical practice*. New York, NY: Guilford.
- Cavallo, C. A., Smith, A. E., Schepis, T. S., Desai, R., Potenza, M. N., & Krishnan-Sarin, S. (2010). Smoking expectancies, weight concerns, and dietary behaviors in adolescence. *Pediatrics, 126*, 66–72.
- Center for Intercultural Dialogue. (2014). *Key Concepts in intercultural dialogue* (No. 22). Retrieved from <http://centerforinterculturaldialogue.org>.
- Chaput, J. P., Leblanc, C., Perusse, L., Desprès, J. P., Bouchard, C., Tremblay, A. (2009). Risk factors for adult overweight and obesity in the Quebec Family Study: Have we been barking up the wrong tree? *Obesity (Silver Spring), 17*(10), 1964–1970.
- Cilliers, J., Senekal, M. & Kunneke, E. (2006). The association between the body mass index of first-year female university students and their weight-related perceptions and practices, psychological health, physical activity and other physical health indicators. *Public Health Nutrition, 9*(2), 234-243.
- Cluskey, M., & Grobe, D. (2009). College weight gain and behaviour transitions: Male and female differences. *Journal of the American Dietetic Association, 109*(2), 325-329.
- Coker, E., & Abraham, S. (2014). Body weight dissatisfaction: A comparison of women with and without eating disorders. *Eating Behaviors, 15*, 453–459.
- Copeland, A. L., & Carney, C. E. (2003). Smoking expectancies as mediators between dietary restraint and disinhibition and smoking in college women. *Experimental & Clinical Psychopharmacology, 11*(3), 247–251. Retrieved from <http://dx.doi.org/10.1037/1064-1297.11.3.247>.
- Copeland, A. L., Spears, C. A., Baillie, L. E., & McVay, M. A. (2016). Fear of fatness and drive for thinness in predicting smoking status in college women. *Addictive Behaviors, 54*, 1-6.
- Crisp, A., Sedgwick, P., Halek, C., Joughin, N., & Humphrey, H. (1999). Why may teenage girls persist in smoking? *Journal of Adolescence, 22*(5), 657–672.
- Crocker, J., & Knight, K. M. (2005). Contingencies of self-worth. *Current Directions in Psychological Science, 14*, 200-203.

- Donny, E. C., Caggiula, A. R., Weaver, M. T., Levin, M. E., & Sved, A. F. (2011). The reinforcement-enhancing effects of nicotine: Implications for the relationship between smoking, eating and weight. *Physiology & Behavior, 104*(1), 143–148.
- Duong, H. T., & Roberts, R. E. (2016). Discordance between measured weight, perceived weight, and body satisfaction among adolescents. *Journal of Psychosomatic Research, 88*, 22–27.
- El Ansari, W., Adetunji, H., & Oskrochi, R. (2014). Food and mental health: Relationship between food and perceived stress and depressive symptoms among university students in the United Kingdom. *Central European Journal of Public Health, 22*(2), 90-97.
- Eisenberg, M. E., & Neumark-Sztainer, D. (2010). Friends' dieting and disordered eating behaviors among adolescents five years later: Findings from project EAT. *Journal of Adolescent Health, 47*, 67–73.
- Elliot, C. A., Kennedy, C., Morgan, G., Anderson, S. K. & Morris, D. (2012). Undergraduate physical activity and depressive symptoms: A national study. *American Journal of Health Behavior, 36*(2), 230-241.
- Evans, P. C. (2003). If only i were thin like her, maybe i could be happy like her: The self-implications of associating a thin female ideal with life success. *Psychology of Women Quarterly, 27*, 209–214.
- Fitzsimmons-Craft, E. E., Bardone-Cone A. M., & Kelly, K. A. (2011). Objectified body consciousness in relation to recovery from an eating disorder. *Eating Behaviors, 12*, 302–308.
- Forbes, G. B., Jobe, R. L., & Revak J. A. (2006). Relationships between dissatisfaction with specific body characteristics and the Sociocultural Attitudes Towards Appearance Questionnaire-3 and Objectified Body Consciousness Scale. *Body Image, 3*, 295–300.
- Forrest, K. Y. Z. & Stuhldreher, W. L. (2007). Patterns and correlates of body image dissatisfaction and distortion among college students. *American Journal of Health Studies, 22*(1), 18-25.
- Fortes, L. S., Ferreira, M. E. C., Oliveira S. M. F, Cyrino, E. S., & Almeida, S. S. (2015). A socio-sports model of disordered eating among Brazilian male athletes. *Appetite, 92*, 29-35.
- Francisco, R., Espinoza, P., Gonza`lez, M. L., Penelo, E., Mora, M., Rose`s, R., & Raich, R. M. (2015). Body dissatisfaction and disordered eating among

- Portuguese and Spanish adolescents: The role of individual characteristics and internalisation of sociocultural ideals. *Journal of Adolescence*, 41, 7-16.
- Frederick, D. A., Forbes, G. B., & Berezovskaya, A. (2008). Female body dissatisfaction and perceptions of the attractive female body in Ghana, the Ukraine, and the United States. *Psychological Topics*, 17, 203-219.
- Fredrickson, B. L., & Roberts, T. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21, 173–206.
- Freedman, M. R. (2010). Gender, residence and ethnicity affect freshman BMI and dietary habits. *American Journal of Health Behavior*, 34, 513–524.
- George, A. & Waller, G. (2005). Motivators for smoking in women with eating disorders. *European Eating Disorders Review*, 13, 417–423.
- Gill, D. P., Jones, G. R., Zou, G., & Speechley, M. (2012). Using a single question to assess physical activity in older adults: A reliability and validity study. *Medical Research Methodology*, 12: 20. Retrieved from <http://www.biomedcentral.com/1471-2288/12/20>.
- Gillen, M. M. & Lefkowitz, E. S. (2012). Gender and racial/ethnic differences in body image development among college students. *Body Image*, 9, 126-130.
- Gillen, M. M. & Lefkowitz, E. S. (2006). Gender role development and body image among male and female first year college students. *Sex roles*, 55, 25-37.
- Gillen, M. M., & Lefkowitz, E. S. (2011). The 'freshman 15': Trends and predictors in a sample of multi-ethnic men and women. *Eating behaviors*, 12, 261-266.
- Gillen, M. M., Markey, N. C., & Markey, P. M. (2011). An examination of dieting behaviors among adults: Links with depression. *Eating Behaviors*, 13, 88–93.
- Godin, G., & Shepard, R. J. (1985). A simple method to assess exercise behavior in the community. *Canadian Journal of Applied Sport Sciences*, 10, 141-146.
- Greenwood, D. (2009). Idealized TV friends and young women's body concerns. *Body Image*, 6, 97–104.
- Gunes, F. E., Bekiroglu, N., Imeryuz, N., & Agirbasli, M. (2012). Relation between eating habits and a high body mass index among freshman students: A cross-sectional study. *Journal of the American College of Nutrition*, 31(3), 167–174.
- Hebl, M. R., King, E. B., & Lin, J. (2004). The swimsuit becomes us all: Ethnicity, gender, and vulnerability to self-objectification. *Personality and Social Psychology Bulletin*, 30(10), 1322-1331. doi: [10.1177/0146167204264052](https://doi.org/10.1177/0146167204264052).

- Herzog, D. B., Franko, D. L., & Dorer, D. J. (2006). Drug abuse in women with eating disorders. *International Journal of Eating Disorders, 39*, 364–368.
- Hilger, J., Loerbroks, A., & Diehl, K. (2017). Eating behaviour of university students in Germany: Dietary intake, barriers to healthy eating and changes in eating behaviour since the time of matriculation. *Appetite, 109*, 100-107.
- Holmes, M. E., Ekkekakis, P., & Eisenmann, J. C. (2010). The physical activity, stress and metabolic syndrome triangle. A guide to unfamiliar territory for the obesity researcher. *Obesity Reviews, 11*, 492–507.
- Holmqvist, K., Lunde, C., & Frisén, A. (2007). Dieting behaviors, body shape perceptions, and body satisfaction: Cross-cultural differences in Argentinean and Swedish 13-year-olds. *Body Image, 4*, 191–200.
- Homan, K. (2010). Athletic-ideal and thin-ideal internalization as prospective predictors of body dissatisfaction, dieting, and compulsive exercise. *Body Image, 7*, 240–245.
- Homan, K., McHugh, E., Wells, D., Watson, C., & King, C. (2012). The effect of viewing ultra-fit images on college women's body dissatisfaction. *Body Image, 9*, 50–56.
- Ibrahim, F. A., & Heuer, J. R. (2016). *Cultural and Social Justice Counseling*. Switzerland: International and Cultural Psychology. doi: [10.1007/978-3-319-18057-1_2](https://doi.org/10.1007/978-3-319-18057-1_2).
- Impett, E. A., Daubenmier, J. J., & Hirschman, A. L. (2006). Minding the body: Yoga, embodiment, and well-being. *Sexuality Research and Social Policy, 3*, 39–48.
- Jeffers, A. J. & Benotsch, E. G. (2014). Non-medical use of prescription stimulants for weight loss, disordered eating, and body image. *Eating Behaviors, 15*, 414-418.
- Jefferson, D. L., & Stake, J. E. (2009). Appearance self-attitudes of African American and European American women: Media comparisons and internalization of beauty Ideals. *Psychology of Women Quarterly, 33*(4), 396-409. doi: [10.1111/j.1471-6402.2009.01517](https://doi.org/10.1111/j.1471-6402.2009.01517).
- Jenks, R. A., & Higgs, S. (2007). Associations between dieting and smoking-related behaviors in young women. *Drug & Alcohol Dependence, 88*, 291–299.
- Jo, Y. H., Talmage, D. A., & Role, L.W. (2002). Nicotinic receptor-mediated effects on appetite and food intake. *Journal of Neurobiology, 53*(4), 618–632.

- Kazi, H. A., & Coopoo, Y. (2010). Physical activity, alcohol use, smoking and dietary profiles of a cohort of university students. *African Journal for Physical, Health Education, Recreation & dance, (Supplement)*, 104-118.
- Killen, J. D., Taylor, C. B., Hayward, C., Haydel, K. F., Wilson, D. M., Hammer, L., ... Strachowski, D. (1996). Weight concerns influence the development of eating disorders: A 4-year prospective study. *Journal of Consulting and Clinical Psychology, 64*(5), 936-940.
- King, G., Flisher, A. J., Mallet, R., Graham, J., Lombard, C., Rawson, T., ... Muller, M. (2003). Smoking in Cape Town: Community influences on adolescent tobacco use. *Preventative Medicine, 36*, 114-123. doi: 10.1006/pmed.2002.1128.
- Klein, K. M. (2013). Why don't I look like her? The impact of social media on female body image. *CMC Senior Thesis paper 720*. Retrieved from http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1749&context=cmc_theses.
- Krug, I., Treasure, J., Anderluh, M., Bellodi, L., Cellini, E., Di Bernardo, M., ... Penelo, E. (2008). Present and lifetime comorbidity of tobacco, alcohol and drug use in eating disorders: A European multicenter study. *Drug & Alcohol Dependence, 97*(1), 169–179.
- Kwan, M. Y., Cairney, J., Faulkner, G. E. & Pullenayegum, E. E. (2012). Physical activity and other health-risk behaviours during the transition into early adulthood: A longitudinal cohort study. *American Journal of Preventive Medicine, 42*(1), 14-20.
- Landrau-Cribbs, E., Cabriales, J. A., & Cooper, T. V. (2015). General and smoking cessation weight concern in a Hispanic sample of light and intermittent smokers. *Addictive Behaviors, 41*, 29–33.
- Larsen, J. K., Otten, R., & Engels, R. C. (2009). Adolescent depressive symptoms and smoking behavior: The gender-specific role of weight concern and dieting. *Journal of Psychosomatic Research, 66*(4), 305-308.
- Larson, N., Laska, M. N., Story, M., & Neumark-Sztainer, D. (2012). Predictors of fruit and vegetable intake in young adulthood. *Journal of the Academy of Nutrition & Dietetics, 112*(8), 1216-1222.
- Li, Y. Q. (2013). Risk factors for cardiovascular disease in Soshanguve, South Africa. *Africa Journal of Nursing & Midwifery, 15* (2), 70–86.

- Littleton, H. L., & Ollendick, T. (2003). Negative body image and disordered eating behavior in children and adolescents: What places youth at risk and how can these problems be prevented? *Clinical Child & Family Psychological Review*, 6(1), 61-66.
- Loth, K. A., MacLehose, R., Bucchianeri, M., Crow, S., & Neumark-Sztainer, D. (2014). Predictors of dieting and disordered eating behaviors from adolescence to young adulthood. *Journal of Adolescent Health*, 55, 705-712.
- Lowery, S. E., Robinson Kurpius, S. E., Befort, C., Hull Blanks, E., Sollenberger, S., Foley Nicpon, M., & Huser, L. (2005). *Journal of College Student Development*, 46(6), 612-623.
- Malinga, M. (2011). *Smoking prevalence, knowledge, attitudes and beliefs about health risks of tobacco smoking among female Psychology 1 students at the University of the Western Cape* (Master's mini-thesis, University of the Western Cape, South Africa). Retrieved from etd.uwc.ac.za/xmlui/handle/11394/3610
- Mantilla-Tolosa, S. C., Gómez-Conesa, A., & Hidalgo-Montesinos, M. D. (2011). Physical activity and tobacco and alcohol use in a group of university students. *Revista de Salud Publica (Bogota)*, 13(5), 748-758.
- Marks, A.S., Steyn, J., & Ratheb, E. (2001). Tobacco use by black women in Cape Town. Retrieved from <http://www.mrc.ac.za/policybriefs/polbrief1.htm>.
- Mashegoane, S., & Makhubela, M. (2018). *Setho/Isintu: Conceptualising cultural identity for Black South Africans*. Paper presented at the Caribbean Philosophical Association's Annual Meeting – Shifting the Geography of Reason XVI: Ways of Knowing, Past and Future, 19-22 June, 2018, Dakar, Senegal.
- Mask, L. & Blanchard, C. M. (2011). The effects of “thin ideal” media on women’s body image concerns and eating-related intentions: The beneficial role of an autonomous regulation of eating behaviors. *Body Image*, 8, 357-365.
- Mastamet-Mason, A. (2014). The Saartjie Baartman’s body shape versus the Victorian dress: The untold African treasures. *Open Journal of Social Sciences*, 2(1), 3-120.
- Mciza, Z., Goedecke, J., Steyn, N. P., Charlton, K. E., Puoane, T., Meltzer, S., ... Lambert, E. V. (2005). Development and validation of instruments measuring body image and body weight dissatisfaction in South African mothers and their daughters. *Public Health Nutrition*, 8 (5), 509-519.

- McKee, S. A., Nhean, S., Hinson, R. E., & Mase, T. (2006). Smoking for weight control: Effect of priming for body image in female restrained eaters. *Addictive Behaviors, 31*(12), 2319-2323.
- Mendes, V., Araújo, J., Lopes, C., & Ramos, E. (2014). Determinants of weight loss dieting among adolescents: A longitudinal analysis. *Journal of Adolescent Health, 54*, 360-363.
- Mineur, Y. S., Abizaid, A., Rao, Y., Salas, R., DiLeone, R. J., Gündisch, D., ... Gao, X. B. (2011). Nicotine decreases food intake through activation of POMC neurons. *Science, 332*(6035), 1330–1332.
- Moreno-Gómez, C., Romaguera-Bosch, D., Tauler-Riera, P., Bennasar-Veny, M., Pericas-Beltran, J., Martinez-Andreu, S. & Aguiló-Pons, A. (2012). Clustering of lifestyle factors in Spanish university students: The relationship between smoking, alcohol consumption, physical activity and diet quality. *Public Health Nutrition, 15*(11), 2131-2139.
- Mussap, J. (2008). Acculturation, body image, and eating behaviours in Muslim-Australian women. *Health & Place, 15*, 532–539.
- Mwaba, K., & Roman, N. V. (2009). Body image satisfaction among a sample of black female South African students. *Social Behavior & Personality, 37*(7), 905-910.
- Myers, T. A., & Crowther, J. H. (2007). Sociocultural pressures, thin-ideal internalization, self-objectification, and body dissatisfaction: Could feminist beliefs be a moderating factor? *Body Image, 4*, 296–308.
- Nelson, M. C. & Story, M. (2009). Food environments in university dorms: 20,000 calories per dorm room and counting. *American Journal of Preventative Medicine, 36*(6), 523-526.
- Neumark-Sztainer, D., Bauer, K. W., Friend, S., Hannan, P. J., Story, M., & Berge, J. M. (2010). Family weight talk and dieting: How much do they matter for body dissatisfaction and disordered eating behaviors in adolescent girls? *Journal of Adolescent Health, 47*, 270–276.
- Neumark-Sztainer, D., & Hannan, P. J. (2000). Weight-related behaviors among adolescent girls and Boys: Results from a national survey. *Archives of Pediatrics & Adolescent Medicine, 154*(6), 569-577.
- Neumark-Sztainer, D., MacLehose, R. F., Watts, A. W., Pacanowski, C. R., & Eisenberg, M. E. (2018). Yoga and body image: Findings from a large population-based study of young adults. *Body Image, 24*, 69-75.

- Neumark-Sztainer, D., Paxton, S. J., Hannan, P. J., Stat, M., Haines, J., & Story, M. (2006). Does body satisfaction matter? Five-year longitudinal associations between body satisfaction and health behaviors in adolescent females and males. *Journal of Adolescent Health, 39*, 244–251.
- Neumark-Sztainer, D., Wall, M., Larson, N. I., Eisenberg, M. E., & Loth, K. (2011). Dieting and disordered eating behaviors from adolescence to young adulthood: findings from a 10-year longitudinal study. *Journal of the American Dietetic Association, 111*(7), 1004-1011.
- Neumark-Sztainer, D., Wall, M., Story, M., & Standish, A. R. (2012). Dieting and unhealthy weight control behaviors during adolescence: Associations with 10-year changes in body mass index. *Journal of Adolescent Health, 50*, 80–86.
- Nolan, V. T. & Surujlal, J. (2012). Gender differences in body image perceptions of South African university students. *African Journal for Physical, Health Education, Recreation & Dance, 18*(1), 321-331.
- Oehlhof, M. E. W., Musher-Eizenman, D. R., Neufeld, J. M., & Hauser, J. C. (2009). Self-objectification and ideal body shape for men and women. *Body Image, 6*, 308–310.
- Ogana, W. & Ojong, V. B. (2012). Sexual body ideal among Zulu women: Continuity and change. *Indilinga: African Journal of Indigenous Knowledge Systems, 11*(1), 32–48.
- Papadaki, A., Hondros, G., Scott, A., & Kapsokefalou, M. (2007). Eating habits of university students living at, or away from home in Greece. *Appetite, 49*(1), 169–176.
- Parkes, S. A., Saewyc, E. M., Cox, D. N., & MacKay, L. J. (2008). Relationship between body image and stimulant use among Canadian adolescents. *Journal of Adolescent Health, 43*, 616–618.
- Peer, N., Bradshaw, D., Laubscher, R., & Steyn, K. (2009). Trends in adult tobacco use from two South African demographic and health surveys conducted in 1998 and 2003. *South African Medical Journal, 99*(10), 744-749.
- Peltzer, K. (2001). Healthy dietary practices among black South African university students. *Health SA Gesondheid, 6*, 4. Retrieved from <http://dx.doi.org/10.4102/hsag.v6i4.84>.

- Peltzer, K. (2002). Leisure-time physical activity: Prevalence and psychosocial correlates in a sample of black South African youth. *African Journal for Physical, Health Education, Recreation & Dance*, 8(1), 75-82.
- Peltzer, K. & Pengpid, S. (2012). Body weight and body image among a sample of female and male South African university students. *Gender & Behaviour*, 10(1).
- Peltzer, K. & Phaswana-Mafuya, N. (2012). Physical inactivity and associated factors in older adults in South Africa. *African Journal for Physical, Health Education, Recreation & Dance*, 18(3), 447-460.
- Peltzer, K., Phaswana-Mafuya, N. & Ramlagan, S. (2011). Prevalence of obesity and associated factors in South Africans 50 years and older. *African Journal for Physical, Health Education, Recreation & Dance*, 17(4:2), 773-779.
- Pengpid, S. & Peltzer, K. (2017). Health-enhancing physical activity among university students in nine ASEAN countries. *African Journal for Physical Activity & Health Sciences*, 23(1:2), 129-139.
- Pengpid, S. & Peltzer, K. (2013). Physical inactivity and associated factors among university students in South Africa. *African Journal for Physical, Health Education, Recreation & Dance*, 19(1), 143-153.
- Petrie, T., Greenleaf, C., & Martin, S. (2010). Biopsychosocial and physical correlates of middle school boys' and girls' body satisfaction. *Sex roles*, 63, 631-644.
- Petrie, T. A., Tripp, M. M., & Harvey, P. (2002). Factorial and construct validity of the Body Parts Satisfaction Scale-Revised: An examination of minority and nonminority women. *Psychology of Women Quarterly*, 26, 213–221. doi: [10.1111/1471-6402.00060](https://doi.org/10.1111/1471-6402.00060).
- Phan, T., & Tylka, T. L. (2006). Exploring a model and moderators of disordered eating with Asian American college women. *Journal of Counseling Psychology*, 53, 36–47.
- Phinney, J. S., & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271–281. doi: [10.1037/0022-0167.54.3.271](https://doi.org/10.1037/0022-0167.54.3.271).
- Pot, G. K., Richards, M., Prynne, C. J., & Stephen, A. M. (2014). Development of the Eating Choices Index (ECI): A four-item index to measure healthiness of diet. *Public Health Nutrition*, 17(12), 2660–2666. doi: [10.1017/S1368980013003352](https://doi.org/10.1017/S1368980013003352).

- Pomerleau, C. S., Ehrlich, E., Tate, J. C., Marks, J. L., Flessland, K. A., & Pomerleau, O. F. (1993). The female weight-control smoker: A profile. *Journal of Substance Abuse*, 5, 391—400.
- Pomerleau, C. S., & Snedecor, S. M. (2008). Validity and reliability of the weight control smoking scale. *Eating Behaviors*, 9(3), 376–380.
- Pretorius, S. & Sliwa, K. (2011). Perspectives and perceptions on the consumption of a healthy diet in Soweto, an urban African community in South Africa. *S.A. Heart*, 8(3), 178-183. Available at www.hatter.uct.ac.za/sites/default/files/image_tool/images/.../2011/perspective.pdf.
- Prichard, I., & Tiggemann, M. (2007). Relations among exercise type, self-objectification, and body image in the fitness centre environment: The role of reasons for exercise. *Psychology of Sport & Exercise*, 9, 855–866.
- Pritchard, M., Parker, C., & Nielsen, A. (2011). What predicts drive for muscularity in college students? *Eating Behaviors*, 12(3), 228–231. Retrieved from <http://dx.doi.org/10.1016/j.eatbeh.2011.04.002>.
- Puoane, T., Fourie, J. M., Shapiro, M., Rosling, L., Tshaka, N. C., & Oelefse, A. (2005). 'Big is beautiful' – An exploration with urban black community health workers in a South African township. *South African Journal of Clinical Nutrition*, 18(1), 6-15.
- Puoane, T., Steyn, K., Bradshaw, D., Laubscher, R., Fourie, J., Lambert, V., & Mbananga, N. (2002). Obesity in South Africa: The South African demographic health survey. *Obesity Research*, 10(10), 1038 –1048.
- Puoane, T., Tsolekile, L., & Steyn, N. (2010). Perceptions about body image and sizes among black African girls living in Cape Town. *Ethnicity & Disease*, 20(1), 29-34.
- Rakhkovskaya, L. M., & Warren, C. S. (2014). Ethnic identity, thin-ideal internalization and eating pathology in ethnically diverse college women. *Body image*, 11, 428-445.
- Rakhkovskaya, L. M., & Warren, C. S. (2016). Sociocultural and identity predictors of body dissatisfaction in ethnically diverse college women. *Body image*, 16, 32-40.
- Reddy, P., James, S., Sewpaul, R., Yach, D., Resnicow, K., Sifunda, S., ... Mthembu, A. (2013). A decade of tobacco control: The South African case of politics,

- health policy, health promotion and behaviour change. *South African Medical Journal*, 103(11), 835-840. doi: [10.7196/SAMJ.6910](https://doi.org/10.7196/SAMJ.6910).
- Reddy, P., Zuma, K., Shisana, O. Jonas, K., Sewpaul, R. (2015). Prevalence of tobacco use among adults in South Africa: Results from the first South African National Health and Nutrition Examination Survey. *South African Medical Journal*, 105(8), 648-655. doi: [10.7196/SAMJnew.7932](https://doi.org/10.7196/SAMJnew.7932).
- Ribeiro-Silva, R. C., Fiaccone, R. L., da Conceição-Machado, M. E. P., Ruiz, A. S., Barreto, M. L., & Santana, M. L. P. (2018). (Abstract) Body image dissatisfaction and dietary patterns according to nutritional status in adolescents. *Jornal de Pediatria*, 94(2), 155-161.
- Rogers Wood, N. A., & Petrie, T. A. (2010). Body dissatisfaction, ethnic identity, and disordered eating among African-American women. *Journal of Counseling Psychology*, 57(2), 141–153.
- Romaguera, D., Tauler, P., Bennasar, M., Pericas, J., Moreno, C., Martinez, S. & Aguilo, A. (2011). Determinants and patterns of physical activity practice among Spanish university students. *Journal of Sports Science*, 29(9), 989-997.
- Sabik, N. J., Cole, E. R., & Ward, L. M. (2010). Are all minority women equally buffered from negative body image? Intra-ethnic moderators of the buffering hypothesis. *Psychology of Women Quarterly*, 34,139–151.
- Saules, K. K., Collings, A. S., Hoodin, F., Angelella, N. E., Alschuler, K., Ivezaj, V., ... Wiedemann, A. A. (2009). The contributions of weight problem perception, BMI, gender, mood, and smoking status to binge eating among college students. *Eating Behaviors*, 10, 1–9.
- Schaefer, L. M., Burke, N. L., Calogero, R. M., Menzel, J. E., Krawczyk, R., & Thompson, J. K. (2018). Self-objectification, body shame, and disordered eating: Testing a core mediational model of objectification theory among White, Black, and Hispanic women. *Body Image*, 24, 5-12.
- Schaefer, L. M., Burke, N. L., Thompson, J. K., Dedrick, R. F., Heinberg, L. J., Calogero, R. M., ... Swami, V. (2015). Development and validation of the sociocultural attitudes towards appearance questionnaire-4 (SATAQ-4). *Psychological Assessment*, 27, 54-67.
- Szabo, C. P., & Allwood, C. W. (2006). Body figure preference in South African adolescent females: A cross cultural study. *African Health Sciences*, 6(4), 201-206.

- Shibata, A., Oka, K., Harada, K., Nakamura, Y. & Muraoka, I. (2009). Psychological, social, and environmental factors to meeting physical activity recommendations among Japanese adults. *International Journal of Behavioral Nutrition & Physical Activity*, 6, 60.
- Shomaker, L. B., & Furman, W. (2009). Interpersonal influences on late adolescent girls' and boys' disordered eating. *Eating Behavior*, 10, 97–106.
- Smith-Jackson, T., & Reel, J. J. (2012). Freshmen women and the “Freshman 15”: perspectives on prevalence and causes of college weight gain. *Journal of American College Health*, 60(1), 14–20.
- Spanos, D., & Hankey, C.R. (2010). The habitual meal and snacking patterns of university students in two countries and their use of vending machines. *Journal of Human Nutrition & Dietetics*, 23(1), 102–107.
- Steyn, N. P., Nel, J. H., Parker, W. A., Ayah, R., & Mbithe, D. (2011). Dietary, social, and environmental determinants of obesity in Kenyan women. *Scandinavian Journal of Public Health*, 39(1), 88-97.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin*, 128(5), 825-848.
- Suliga, E., Wronka, I. & Pawlińska-Chmara, R. (2011). The prevalence and correlates of abdominal obesity in female students. *Pediatric Endocrinology, Diabetes & Metabolism*, 17(4), 201-205.
- Swami, V., Frederick, D. A., Aavik, T., Alcalay, L., Allik, J., Anderson, D., ... Zivcic-Becirevic, I. (2010). The attractive female body weight and female body dissatisfaction in 26 countries across 10 world regions: Results of the international body project I. *Personality & Social Psychology*, 36(3), 309–325.
- Swami, V., Knight, D., Tovee, M. J., Davies, P., & Furnham, A. (2007). Perceptions of female body size in Britain and the South Pacific. *Body Image*, 4, 219-223.
- Thomas, M. (2010). *Perceptions of body image among low socioeconomic status African American mothers and their daughters in Mobile, Alabama*. (Unpublished master's thesis). The University of Alabama, Tuscaloosa, Alabama. Available at acumen.lib.ua.edu/content/u0015/0000001/0000384/u0015_0000001_0000384.pdf.
- Thompson, J. K., Van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. G. (2004). The sociocultural attitudes towards appearance scale-3 (SATAQ-3):

- Development and validation. *International Journal of Eating Disorders*, 35, 293–304.
- Thun, M. J., Carter, B. D., Feskanich, D., Freedman, N. D., Prentice, R., Lopez, A. D., ... Gapstur, S. M. (2013). 50-year trends in smoking-related mortality in the United States. *New England Journal of Medicine*, 368(4), 351–364.
- Turnage, B. F. (2004). Influences on adolescent African American females' global self-esteem: Body image and ethnic identity. *Journal of Ethnic & Cultural Diversity in Social Work*, 13, 27–45.
- Tylka, T. L., & Homan, K. J. (2015). Exercise motives and positive body image in physically active college women and men: Exploring an expanded acceptance model of intuitive eating. *Body Image*, 15, 90–97.
- Tylka, T. L. (2011). Positive psychology perspectives on body image. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (2nd ed., pp. 56-64). New York, NY: Guilford.
- VanKim, N. A., Laska, M. N., Ehlinger, E., Lust, K. & Story, M. (2010). Understanding young adult physical activity, alcohol and tobacco use in community colleges and 4-year post-secondary institutions: A cross-sectional analysis of epidemiological surveillance data. *BMC Public Health*, 10, 208. doi: [10.1186/1471-2458-10-208](https://doi.org/10.1186/1471-2458-10-208).
- Van Strien, T., Herman, C. P., & Verheijden, M. W. (2012). Eating style, overeating and weight gain. A prospective 2-year follow-up study in a representative Dutch sample. *Appetite*, 59, 782–789.
- Vartanian, L. R., Wharton, C. M., & Green, E. B. (2011). Appearance vs. health motives for exercise and for weight loss. *Psychology of Sport & Exercise*, 13, 251-256.
- Von Lengerke, T., Mielck, A., & KORA Study Group. (2012). Body weight dissatisfaction by socioeconomic status among obese, preobese and normal weight women and men: Results of the cross-sectional KORA Augsburg S4 population survey. *BMC Public Health*, 12, 342. doi: [10.1186/1471-2458-12-342](https://doi.org/10.1186/1471-2458-12-342).
- Wagner Oehlhof, M. E., Musher-Eizenman, D. R., Neufeld, J. M., & Hauser, J. C. (2009). Self-objectification and ideal body shape for men and women. *Body Image*, 6, 308–310.

- Watson, L. B., Robinson, D., Dispenza, F., & Nazari, N. (2012). African American women's sexual objectification experiences: A qualitative study. *Psychology of Women Quarterly*, 36, 458–475. doi: [10.1177/0361684312454724](https://doi.org/10.1177/0361684312454724).
- Wilson, R. E., Latner, J. D., & Hayashi, K. (2013). More than just body weight: The role of body image in psychological and physical functioning. *Body Image*, 10, 644–647.
- White, M. A., Masheb, R. M., & Grilo, C. M. (2010). Self-reported weight gain following smoking cessation: A function of binge eating behavior. *International Journal of Eating Disorders*, 43(6), 572–575.
- White, M. A., Peters, E. N., & Toll, B. A. (2010). Effect of binge eating on treatment outcomes for smoking cessation. *Nicotine & Tobacco Research*, 12(11), 1172–1175.
- World Health Organization. (2016). *WHO Fact sheet on healthy diet (No 394)*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs394/en/>.
- World Health Organization. (2009). *Global Health Risks Report: Mortality and Burden of Disease Attributable to Selected Major Risks*. Retrieved from http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_full.pdf.
- World Health Organization. (2010). *Gender, women, and the tobacco epidemic*. Retrieved from http://www.who.int/tobacco/publications/gender/women_tob_epidemic/en/.
- Yam, M. (2013). *Does culture matter in body image? The effects of subjective and contextual culture on body image among bicultural women* (Doctoral dissertation, University of Michigan). Retrieved from https://deepblue.lib.umich.edu/bitstream/handle/2027.42/97941/meiguan_1.pdf?sequence.

APPENDICES

Appendix 1: Ethical Clearance



University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: Anastasia.Ngobe@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

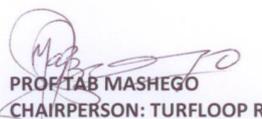
MEETING: 06 April 2018

PROJECT NUMBER: TREC/54/2018: PG

PROJECT:

Title: Self-objectification, cultural identity, body dissatisfaction and health-related behaviours among female African university students.

Researcher: MP Mamabolo
Supervisor: Prof S Mashegoane
Co-Supervisors: N/A
School: School of Social Sciences
Degree: Master of Arts in Clinical Psychology


PROF S MASHEGO
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) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.
 - ii) The budget for the research will be considered separately from the protocol.
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Appendix 2: Letter of Invitation to Participants

PROJECT TITLE: SELF-OBJECTIFICATION, CULTURAL IDENTITY, BODY DISSATISFACTION, AND HEALTH-RELATED BEHAVIOURS AMONG FEMALE AFRICAN UNIVERSITY STUDENTS.

PROJECT LEADER: Mamabolo Mokgaetji Philistus

1. You are invited to participate in the following research project:

Self-objectification, cultural identity, body dissatisfaction and health-related behaviours among female African university students

2. Participation in the project is completely voluntary and you are free to withdraw from the project (without providing any reasons) at any time.
3. It is possible that you might not personally experience any advantages during the project, although the knowledge that may be accumulated through the project might prove advantageous to others.
4. You are encouraged to ask any questions that you might have in connection with this project at any stage. The project leader and her/his staff will gladly answer your question. They will also discuss the project in detail with you.
5. Known consequences of completing a questionnaire on religiosity/spirituality and health risk behaviours: Completing a questionnaire on religiosity/spirituality and health risk behaviours might cause discomfort as it might temper with the honesty of the participant.
6. Should you at any stage feel unhappy, uncomfortable or is concerned about the research, please contact **Prof S. Mashegoane at the University of Limpopo, Private Bag X1106, Sovenga, 0727, Tel: 015 268 2317.**