Perceptions of body weight and health risks among primary school educators in the Western Cape, South Africa.

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Abstract

The global problem of overweight and obesity is disturbing judging by the World Health Organization 2008 statistics which estimate that 1.4 billion and 500 million adults are overweight and obese. Thus, as a major risk for non-communicable diseases (NCDs) which are the foremost cause of disability and death, the problem of obesity needs to be addressed not only globally but in South Africa as well. South Africa's burden of disease includes NCDs and causes of death of diseases such as diabetes (3%), cardiovascular diseases (CVDs) (11%), cancer (7%) and chronic respiratory diseases (3%).

The HealthKick study is a school-based nutrition and physical activity intervention programme in the Western Cape, S.A., aimed to promote healthy behaviours such as healthful eating and physical activity in children, parents and teachers to reduce the risk of non-communicable diseases. During the formative phase of the study it emerged that educators were at high risk for NCDs because of their high levels of obesity.

This study therefore aimed to describe primary school educators' perceptions regarding body weight, related health risks and barriers to weight management. A qualitative approach was used to collect data and included focus group discussions (FGDs), and in-depth individual interviews (IDIs). In addition anthropometric measurements were taken. Four schools were purposively selected and a total of thirty one male and female educators participated in the seven focus group discussions and four in-depth interviews from the four schools. Male FGDs and IDIs and female FGDs and IDIs were conducted separately. The focus group discussions and in-depth interviews were digitally recorded and transcribed verbatim. Thematic data analysis was conducted with the use of ATLAS ti 6.1 computer software.

The results of the study indicate that educator perceptions regarding their own body weight varied slightly from the actual. Positive and negative weight loss experiences and feelings regarding their own body weight were expressed. Educators appeared knowledgeable about overweight/obesity and its health risks for particular NCDs. Several personal barriers were identified by the educators; however, of particular interest were the barriers relating to the school environment, identified barriers included lack of time, heavy workloads and school responsibilities. Several factors for consideration emerged relating to implementing an educator weight management programme in the schools. These included: the involvement of the department of education (DOE), the type of activities planned and the time of implementation.

Declaration

I declare that “Perceptions of body weight and its health risks among primary school educators in Western Cape, South Africa.” is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources that I have used have been indicated and acknowledged by means of complete references.

Full Name: Lucinda Margaret Dalais Date: ……..

Signed: …….

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Abbreviations

AA	- African American
BIP	- Body image perception
BMI	- Body Mass Index
BWS	- body weight status
CVDs	- cardiovascular diseases
CAQDAS	- Computer-Aided Qualitative Data Analysis Software
DOE	- Department of Education
DOH	- Department of Health
EDs	- Education districts
FGDs	- Focus group discussions
IDIs	- Individual in-depth interviews
HP	- health promotion
HSRC	- Human Sciences Research Council
NCDs	- non-communicable diseases
S.A.	- South Africa
DHS	- Demographic and Health Survey
CATCH	- The Child and Adolescent Trial for Cardiovascular Health
USA	- United States of America
UWC	- University of the Western Cape
WCED	- Western Cape Education Department
WDF	- World Diabetes Foundation
WHO	- World Health Organization

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CHAPTER 1
INTRODUCTION

1.1 Introduction

According to the World Health Organization (WHO), in 2008, 1.4 billion adults (classified as 20 years and older) were overweight (BMI ≥25) and 500 million were obese (BMI≥30), globally. It is estimated that overweight or obesity is the cause of 2.8 million adults dying every year (WHO, 2012).

Obesity is a major risk factor for non-communicable diseases (NCDs) (WHO, 2005). Non-communicable diseases are the leading cause of death and disability worldwide (WHO, 2005), and in Africa, it is estimated to increase by 20% between 2010 and 2020 (WHO, 2011a). It also needs to be realized that more than 80% of deaths from NCDs occur in low and middle income countries. NCDs mainly include cardiovascular diseases, diabetes, cancer and chronic respiratory diseases (WHO, 2011b).

In addition to NCDs, S.A.'s burden of diseases also comprises communicable (infectious) diseases, injury-related deaths and HIV/AIDS (Bradshaw *et al*, 2011); in other words a quadruple burden. Unfortunately, communicable diseases such as tuberculosis and in particular the current HIV/AIDS epidemic in the country frequently overshadow the urgency to prevent and manage NCDs (Mayosi *et al*, 2009).

S.A. is currently at a stage where its population is experiencing increasingly high levels of NCDs. These high levels of NCDs do not only occur in the wealthier communities but also in underprivileged communities in particularly urbanised areas (Mayosi *et al,* 2009). Recently, the WHO estimated that 28% of all deaths in S.A. are due to NCDs, of which 11% are CVDs, 7% cancer, 3% diabetes, 3% respiratory diseases and 4% other NCDs (WHO, 2011b). There is thus an urgent need for the risk factors of NCDs to be addressed, particularly that of obesity as well as the associated risk factors which include unhealthy diet and physical inactivity. Prevention is not only essential to reduce disease risk in future generations but also the most cost effective way of dealing with NCDs. In this regard health promotion (HP) strategies or interventions aimed at providing people with knowledge and skills

to manage and improve their personal health, should be stressed (Steyn *et al*, 2008).

Schools provide a viable setting for HP activities aimed at children, their families and the community (Steyn *et al*, 2009). School-based interventions on nutrition and physical activity have however mainly focused on children or learners as the target population (Naylor *et al*, 2006; Luepker *et al*, 1996). While it has proven to be successful because of its positive outcome on improving childrens' health behaviour specific to nutrition and physical activity (Luepker *et al*, 1996; Stevens *et al,* 2003) little is known about the effect of such interventions on the health of educators.

Although the interventions such as The Child and Adolescent Trial for Cardiovascular Health (CATCH) in the USA and Action Schools! BC in Canada are feasible and sustainable interventions, there was a need for an intervention specific to the African context or setting (Draper *et al*, 2010) and in 2007 the formative assessment phase for such an intervention commenced. Primary schools in Western Cape, S.A. were the settings for HealthKick, a school-based nutrition and physical activity intervention. Its three primary aims were to:

- promote healthful eating habits in children, parents and educators, as a means to reduce the risk of chronic NCDs (particularly type 2 diabetes);
- increase regular participation in health-enhancing physical activity in children, parents and teachers, to prevent overweight, and reduce risk of chronic NCDs (particularly type 2 diabetes); and
- promote the development of an environment within the school and community that facilitates the adoption of healthy lifestyles (Draper *et al*, 2010; De Villiers *et al*, 2012).

During the formative assessment (n=100 schools) for the implementation of the HealthKick study it was found that the educators at the schools studied had very high levels of obesity (47%) (Ndamane *et al*, unpublished). These results illustrated that teachers were at high risk for NCDs and obesity was one of the major risk factors which needed to be addressed in doing any health promotion intervention.

1.2 Problem statement

Since 2007, the World Diabetes Foundation (WDF) have funded HealthKick, a school-based nutrition and physical activity intervention study conducted in primary schools in the education districts (EDs) of Metropole North and the Winelands/Overberg in the Western Cape, S.A. (Draper *et al*, 2010; De Villiers *et al*, 2012).

One component of this study included a survey of 517 educators at the primary schools categorised as being in disadvantaged communities. The educators' survey formed part of the formative assessment for a school-based intervention programme aimed at increasing the knowledge and promoting healthy eating and physical activity behaviours for the prevention of diabetes in children, their parents, and educators in primary schools in the Western Cape.

Findings from the survey indicated that almost 80% of educators in these schools were overweight (31%) or obese (47%). Furthermore, 56% of educators had a high waist circumference; 46% had high blood pressure; and 29% had high random blood glucose levels. The total sample of educators consisted of 87% mixed ancestry, 11% white and 2% African educators (Ndamane *et al*, unpublished). S.A. has approximately 26 292 schools in which there are 386 600 teachers (DOE, 2009). The obesity levels of educators who participated in the study far exceeded those for adults in S.A. as determined by the 2003 Demographic Health Survey (DHS) (DOH *et al*, 2007); while the other risk factors were similar to those of the DHS. Educators can thus be regarded as a group at high risk for developing NCDs (Ndamane *et al*, unpublished). This survey has not only highlighted the high NCD risk factors in educators but has also identified the need for strategies to be developed to address these health issues. Additionally, a lack of knowledge about educator perceptions around body weight and health behaviours relating to weight management was recognized as a topic for this study.

In a review on interventions at the workplace, Steyn *et al* (2009) found that one of the most important factors to effectively change behaviour, was to include employees in the planning and implementation (or management) of the HP

intervention. Consequently, the present study represents formative research with the aim of exploring the perceptions of educators about obesity and its management. Information of this nature is critical for planning and developing an intervention for the persons with this risk factor, especially to obtain their buy-in.

1.3 Rationale

It is anticipated that the findings of this study may contribute toward a greater understanding and knowledge of educators' body weight perceptions, health risks and health practices. Furthermore, it is possible that the results will contribute by way of recommendations, to formulating an appropriate context-related intervention to assist in weight management or prevention of obesity of educators in Western Cape, S.A.

1.4 Thesis Outline

Chapter 1: This chapter introduces and discusses the background, provides a statement of the problem, and provides a rationale for the study.

Chapter 2: This chapter includes discussion on the social and environmental determinants of NCDs, overweight/obesity and its prevalence in S.A.; its psychological consequences will also be discussed. A review of all the literature will specifically focus on studies on perceptions of body weight and body image as relevant to this study.

Chapter 3: The research methodology section describes the study setting, study population, sample, study design, ethical considerations, data collection tools, data collection methods and data analysis.

Chapter 4: The findings of the study are presented and discussed in this chapter.

Chapter 5: The recommendations and conclusions of the study are presented.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

This chapter presents an overview of relevant literature relating to social and environmental determinants of NCDs, of which overweight/obesity are one of the most common risk factors. Furthermore, the prevalence of overweight/obesity in S.A. and its psychological consequences will be discussed. Specific focus will be on studies on perceptions of body weight in order to meet the overall objectives of the study.

2.2 Urbanization and its effect on overweight/obesity and consequently NCD development

Urbanization occurred as a result of series of transitions/changes that stem from the industrial revolution which originated in the developed world. Prior to the industrial revolution, poverty, malnutrition and communicable/infectious diseases were at the forefront of the developed world's health problems (Caballero, 2007). However, in Britain for example, the industrial revolution changed all this because of its positive/progressive effect on people's living conditions and consequently people's health, resulting in a decrease in communicable/infectious diseases. Their health improved in such a way that the deaths due to communicable/infectious diseases decreased (Sanders & Carver, 1985). On the other hand, overweight/obesity and subsequently NCDs have been steadily increasing since that time (Caballero, 2007). The reduction in the death rate due to infectious diseases, known as the *epidemiological transition,* occurred simultaneously with the demographic transition (Popkin & Gordon-Larsen, 2004).

In 1994, Popkin reported that middle income countries such as S.A. were undergoing rapid changes in diet and physical activity levels with increasing levels of obesity (Popkin, 1999); Bourne *et al,* 2002) The nutrition transition, which is thought to have occurred concurrently or following the demographic and epidemiological transitions (Popkin, 2003), no longer only affected developed or high income countries but was also taking place in lower income countries (Popkin & Gordon-Larsen, 2004). This resulted in major changes in the health status of populations, mainly due to changes

in dietary patterns and decreased physical activity (Amuna & Zotor, 2008).

2.3 The South African context regarding overweight/obesity and NCDs

Despite other intermediate risk factors for NCDs (raised blood pressure, raised blood glucose, abnormal blood lipids) being significant health conditions to address; overweight/obesity should be prioritized because it is a *preventable* risk factor. It has however reached epidemic proportions globally (Van der Merwe & Pepper, 2006).

In S.A., the 2003 Demographic and Health Survey showed that overweight and obesity are major health problems in S.A., with 55% of adult women and 30% of adult men having a BMI ≥ 25 (DOH *et al*, 2007). The highest prevalence among women was found in Indian women (59%) and black African women (56%). Mixed ancestry women (52%) follow and lastly white women (38%) (DOH *et al*, 2007). In 2002, Puoane *et al* reported that 42% of women had central obesity and that it was most prevalent in African and mixed ancestry women in urban areas.

In men the highest prevalence was found in white men (48%), followed closely by Indian men (45%), mixed ancestry/coloured men (36%) and lastly black African men (27%) (DOH *et al*, 2007). Puoane *et al* (2002) also reported that 9% of men had central obesity (abdominal obesity), i.e. the accumulation of abdominal fat causing an increase in waist circumference. This is the most harmful type of fat distribution since it is a major risk factor for CVDs (Goedecke & Jennings, 2005). This thus indicates their higher risk for NCDs.

2.4 South African educators and their risk factors for NCDs

The HealthKick study (discussed in chapter 1) further showed that overweight and obesity are particularly high in educators (De Villiers *et al*, 2012). Unhealthy diet and decreased levels of physical activity whether at school or at home, all contribute to obesity and furthermore to the risk for NCDs (WHO, 2004).

Previously, it has also been documented that S.A. educators experience similar problems with risk factors such as overweight/obesity, raised blood pressure (DOH *et al*, 2007) and cholesterol levels. The 'Health of our Educators' report (Shishana *et*

al, 2005) stated that high blood pressure (15.6%) and diabetes (4.5%) were the most frequently self-reported health problems identified among educators in S.A.. In addition, NCDs such as CVD (Guglielmi & Tatrow, 1998), stroke and diabetes, have been linked to the profession of teaching (National Institute on Occupational Health, 1998).

Since overweight is preventable and a major determinant in the development of NCDs, it is important to obtain as much information on its aetiology, particularly as it relates to educators.

2.5 Psychological consequences of excess body weight

According to Friedman & Brownell (1995), an obese individual's perceived body image may be the result of the difference in actual versus ideal body weight. Thus one of the outcomes of excess body weight may be the harsh effect it has on an individual's mental state. Obese or overweight individuals in society are thought to be responsible for their own condition, therefore there is a lack of sympathy toward them and they are frequently stigmatised because of it. Other than the psychological distress to well-being it may cause, stigmatisation may even reach the point of discrimination (Schwartz & Brownell, 2004). According to Friedman *et al* (2002), obese individuals who are seeking treatment for weight issues, in contrast to normal-weight individuals, have a more negative perception of their body and also suffer to a greater degree from depression and low self-esteem. The effect that a person's body image has on their social and mental condition may allude to either body image distress or to well-being (Schwartz & Brownell, 2004). Body image distress may either benefit the individual by creating a situation which can motivate them to lose weight, or may lead to increased loss of control of their own eating habits (Friedman & Brownell, 1995). The level of body image distress may also be dependent on whether an individual was seeking treatment for a weight issue or not (Friedman *et al,* 2002).

2.6 Body image and body perception

Body image is defined as a subjective view or perception of how people feel about certain physical aspects of their bodies (Cash *et al,* 2004). Two measures of body image that are considered and referred to in literature (Flynn & Fitzgibbon, 1998) are *perceptual* body image and *attitudinal* body image measures. Perceptual body image refers to the manner in which people *view* their bodies or physical appearance (Rucker & Cash, 1992) and requires the person to estimate what they perceive their weight category to be or to estimate their body size (Flynn & Fitzgibbon, 1998). In contrast, attitudinal body image refers to how people *feel* about their bodies or physical appearance (Rucker & Cash, 1992) and ask individuals about their feelings of satisfaction regarding their body, weight or attractiveness. However, body satisfaction does not necessarily imply weight satisfaction (Flynn & Fitzgibbon, 1998) because body image is a multidimensional concept (Thomas, 1989).

2.6.1 Societal influences (the media and cultural) on body image and body perception

The media (newspapers, magazines and television) in modern times appear to place a great deal of importance on adults, particularly women, having a "thin" figure or body shape which looks considerably slimmer than their own. The female fashion models depicted in the media may contribute to most women comparing themselves to this idea of the "ideal" woman's figure and BMI. Thus the pressure to be thin may be blamed on the media to a large degree (Coetzee & Perrett, 2011).

This consequently creates or contributes to women obsessing about their bodies (Senekal, 2005) and appearing to be continually discontented or dissatisfied with their body shape or size (Cash & Roy, 1999). Overweight/obese women may experience even greater pressure to be thin and furthermore, they may be more emotionally affected by the media's expectations because of the psychological consequence of the excess body weight they carry.

According to Senekal (2005), women strive to have a thin figure because they believe that it will contribute to their success in society and solve all their problems. In S.A., Puoane *et al* (2005) found that women in their study viewed thin women as

feeling better about themselves. They proposed that the media's role in portraying a thinner body as being more attractive may have contributed to this changing belief among black women.

Walker *et al* (2001) had earlier suggested that obese black African women are not encouraged or motivated to lose weight because of their cultural beliefs; which favour a larger figure. Hence they may not be as keen to lose weight as white women. This research was supported by numerous studies which documented that cultural beliefs and attitudes contribute to the acceptance of a larger body size among the black female population in S.A. (Puoane *et al,* 2005; Mchiza *et al*, 2005) and less dissatisfaction with a larger body size in black African American and non-white groups (e.g. Hispanic) in the USA (Anderson *et al*, 2002; Befort *et al*, 2008). This view of cultural acceptance was also supported by Steyn *et al* (2006) who suggested that different body perceptions among groups may be attributable to the cultural diversity that is specific to S.A.

A recent study by Bruk (2010) showed that the body perceptions of ethnically diverse pre-adolescent girls' in S.A. appeared to be influenced by both societal factors such as the media and by culture.

These cultural demands as well as opposing Western demands on black African women may lead to the predicament of being pressured to having a larger body size and at the same time to lose weight and become thinner. The overall effect on a person's body image may be body image distress.

2.7 Overview of research studies conducted on body image and body perception

Assessing body perception is believed to be instrumental in determining whether body shape or size is a concern, especially for women. Research in S.A. has mainly focused on females and more particularly on the black and mixed ancestry female population.

In the USA, African-American (AA) women have especially been targeted in research relating to body image perceptions and body weight. This may be due to the high prevalence of overweight or obesity in this group compared to other groups, and their lack of perception that they are overweight or obese as indicated in the studies reviewed. Table 2.1 provides a summary of some relevant studies on body image in African women and men in S.A. and the USA.

Table 2.1: Past and current research on body image and body perception

Country Province	Reference	Sample description	Main Findings
S.A. - Western Cape	Mvo & Steyn (1999)	N=10 black overweight women, aged between 18-36 yrs Qualitative study	Dissatisfaction: Majority of women were dissatisfied with their body shape
S.A. - Western Cape	Caradas, Lambert & Charlton (2001)	N=228 schoolgirls 60 black; 83 mixed race; 85 white (aged 15-18 yrs) Different weight categories included	Body weight status (BWS): Black girls had higher body mass indices (BMIs) than mixed race & white girls Dissatisfaction: With actual body size was much higher in white girls compared to black & mixed race girls.
USA	Anderson *et al,* (2002)	N=1760 overweight & obese women (aged 40+ years) 4 racial groups: Hispanic, non-Hispanic black, Indian/Alaskan Native & non-Hispanic white	BWS: 52.8% overweight, 47.2% obese; Dissatisfaction: 47.6% were not satisfied with their body size. Obese women were less likely to express satisfaction with their body size than overweight women Compared with non-Hispanic white women, women in other racial/ethnic groups expressed greater body satisfaction

S.A.– KwaZulu Natal	Faber & Kruger (2005)	N=187 (25-55 yr old women) Different weight categories included	BWS: Most were unconcerned about their weight; Causes of obesity: 39% believed obesity was caused by poor eating & 9% by eating too much Health risk awareness: most did not recognize the link between food & degenerative diseases
S.A. - Western Cape	Puoane *et al,* (2005)	N=44 (black women, aged); Community Health Workers. Different weight categories included Qualitative methods e.g. FGDs included	BWS: Majority were overweight & obese Causes of obesity: wrong food, skipping breakfast, worries about debt & family Body shape: moderately overweight shape (about BMI of 27), association with dignity, respect, confidence, beauty, wealth
S.A. - Western Cape	Mchiza *et al,* (2005)	N=537 (girls aged 9-12 yrs, n=333; their mothers, n=204) Different weight categories included	BIP: A more overweight body size seen as 'normal' among black girls & mothers Body dissatisfaction: black girls less dissatisfaction with their current body size
USA	Befort *et al,* (2008)	N=62 obese African-American women 18 yrs & older Qualitative study	BIP: Accepting of larger body sizes Dissatisfaction: With current body weight Causes of overweight/obesity: Poor dietary behaviour identified as primary cause for weight gain Reasons for weight loss: Health most important

S.A. - Western Cape	Puoane *et al,* (2010)	N=240 (black girls between 10-18 yrs Different weight categories included Qualitative study	Fatness: Happiness & wealth Advantages of fatness: Sport activities needing strength, respectability Disadvantages of fatness: Diabetes, hypertension, difficult to fit into clothes Advantage of thinness: Less prone to develop NCD
USA	Moore *et al,* (2010)	N=323 (AA women) 18 yrs & older Different weight categories included	BWS: >80% were either overweight or obese BWP: 44% of overweight reported being normal weight 72% of obese reported being overweight
STUDIES INVOLVING MALES (USA & S.A.)			
USA	Cachelin *et al,* (2002)	N=1229 (801women and 428 men) Average age for the total sample was 24.3 years 23% Asian, 45% Hispanic, 17% black, and 15% white	Men were less dissatisfied with their size than women, and were more likely to want to gain weight
S.A. - Limpopo	Peltzer & Pengpid (2012)	N=289 (189 women; 100 men) 18 years and older Different weight categories included	BWS: 30.5% (one third) of women and 8.7% of men were overweight or obese BWP: 62.5% of overweight males and 61.1% of overweight females perceived that they had normal weight

BWS=body weight satisfaction; FGD=focus group discussion; BWP=body weight perception; BIP=body image perception

2.7.1 Study by Mvo & Steyn (1999), S.A.

Mvo & Steyn (1999) qualitatively explored overweight black African mothers' perceptions of cultural acceptability of body size in an urban township in Cape Town, S.A. The majority of women were not content with their body size. The reasons for their dissatisfaction included: clothes no longer fitting; difficulty in moving around; bodies feeling 'heavy'; and feeling uncomfortable, especially in hot weather. Those women who reported being content or satisfied with their size associated thinness with constant worries and tough times. Causes of their overweight as reported by many were the Depo-Provera contraceptive injection; too many worries, being upset; and overeating.

2.7.2 Study by Caradas *et al* (2001), S.A.

The study by Caradas et al. was done to investigate/compare black, mixed race and white schoolgirls' eating attitudes and body shape concerns. The study incorporated 60 black, 83 mixed race and 85 white schoolgirls. Results from the administration of the Body Silhouette Chart (Bell *et al,* 1986) indicated that black girls' ideal body shape was larger than those of mixed race and white girls. Furthermore, the extent to which white girls showed dissatisfaction with their bodies was greater than that of black girls. The authors thus suggested that black girls are more comfortable with a larger body size than mixed race or white girls because the environment in which they live is more tolerant of being overweight. They further suggested that this environment may have a protective effect against body image disturbances in these black girls.

2.7.3 Study by Anderson *et al* (2002), USA

This study examined socio-demographic factors, perceived health, satisfaction with body size and attempted weight loss in women aged 40 years and older. Only women with BMI ≥25 were included in the sample. In terms of body size satisfaction, more than half of these women (52.5%) were satisfied with their body size despite being overweight or obese.

However, among the 65% of women in the study, who were trying to lose weight, the majority (60%) were not satisfied with their body size. Body size satisfaction was more prevalent among women who were not white or Hispanic. Furthermore, women's

satisfaction with their body size was greater if they classified their health as being excellent or very good.
Body size satisfaction appeared to increase with age, that is, women in this study between 40-69 years of age were less satisfied with their body size than the older women (70 years and older).

The authors suggested that body image becomes more relevant or important once someone has to lose weight because of the diagnosis of a chronic disease e.g. diabetes. They further suggested that body size dissatisfaction may serve as a motivation for weight loss; however, conversely, weight loss may also cause body size dissatisfaction in the same individual.

2.7.4 Study by Faber & Kruger (2005), S.A.

This survey investigated the dietary intake and attitudes toward body weight of normal, overweight and obese black women in order to determine their weight control behaviours in a setting having a high prevalence of obesity. In this sample, 28.9% were classified as being normal weight, 41.2% as being overweight and 29.9% as being obese. Results on body weight perceptions of the three groups (normal, overweight and obese) of women indicated that although the majority of females were in the overweight (n=77) and obese (n=56) categories, only 2% of overweight and 30% of obese women perceived themselves to be that way. The authors' conclusion on this finding is that the accepting nature toward being overweight among black women may cause problems in the prevention and treatment of obesity in this group.

The survey also found that the majority of the participants believed that overweight was caused by a biological disorder (96%); to a lesser degree by poor eating habits (39%); and least by eating too much food (9%). Most of the women also did not see the connection between a person's health and the food they consumed. The participants were, however, fully aware of their own health status, as indicated by self-reported health status.

2.7.5 Study by Mchiza *et al* (2005), S.A.

The aim of this study was to develop and validate questionnaires to assess perceptions of body image, body size dissatisfaction, and weight-related beliefs in girls from different ethnic groups and their mothers. The researchers used modified silhouette images from two different sources, the Pathways Study (for the girls) (Stevens *et al,* 1999) and Stunkard's body image silhouettes (for the mothers) (Stunkard *et al,* 1983).

Findings were that black girls and their mothers had a higher tolerance for an overweight body size since the majority selected the larger body silhouette as the 'normal' shape. Another significant finding was that the black girls displayed greater body size satisfaction than the white girls.

2.7.6 Study by Puoane *et al* (2005 & 2010), S.A.

In 2005, Puoane *et al.* undertook qualitative research in 44 adult black women - community health workers, aged 28-60 years, living in a township outside Cape Town. The researchers explored these women's perceptions regarding factors related to body weight and body image. They found that although 95% of the participants were overweight and obese, only 45% considered themselves to be in that weight range. Therefore, even though the prevalence of obesity was exceptionally high in this group, most of them were oblivious of that fact. Thus these women were clearly under a misconception regarding their own BWS.

These women perceived the main causes of their overweight to be eating the wrong foods and/or not eating breakfast. They also correctly, identified certain diseases as being consequences of overweight, namely- high blood pressure, diabetes, heart disease and arthritis.

Furthermore, the study found that a moderately overweight size (BMI of 27) was preferred to a BMI less than 25 and most acceptable among this group. A significant and important finding of this study was that these women preferred being overweight because of the negative connotation of HIV/AIDS and thinness in their culture/society. Being thin was also associated with being unhappy or worrying too much. Thus they preferred being overweight because they associated being overweight with not merely

having more strength but also with being happy, dignified, respected, healthy, affluent and to receiving good treatment from one's spouse. Thus they had a positive picture of their lives if they were overweight.

The authors do acknowledge that the high overweight/obesity prevalence in the study may be due to the sampling selection of the women who participated (being community health workers). This may predominantly have been influenced by community members' partiality toward bigger women. Another limitation to this study was the small sample size studied.

In 2010, Puoane and colleagues also studied black preadolescent schoolgirls (10-18 years) in a township in Cape Town; and their beliefs about body image and perceptions regarding being fat. The beliefs of the schoolgirls were tested by asking them to select 1) the image they would like to look like; and 2) the image which makes a girl look best. Although the majority of girls chose the normal body silhouette for both questions, a large percentage of girls also chose the overweight silhouette for both 1 (41.3%) and 2 (35.5%), indicating that many of the girls found the overweight silhouette to be acceptable.

Some of the schoolgirls believed that being obese makes one look good; also that being obese is in actual fact better because it enables them to participate in certain activities requiring physical strength. They associated respect and good health with being fat.

2.7.7 Study by Befort *et al* (2006), USA

This qualitative study was conducted among obese AA women in the USA in order to investigate their perceptions about their body size, their weight and weight loss attempts. The authors believed that the themes that emerged from this study would provide greater understanding of this specific population in order to design a weight loss intervention for them.

Nearly 50% of these women were categorised as being extremely obese (class 3 obesity = BMI ≥40) but 88.6% of participants perceived themselves as simply being overweight. They appeared concerned about their weight but regardless of this, were accepting of a

larger body size. Concern for their health appeared to be the main reason for wanting to lose weight since 48.4% and 25.8% reported suffering from hypertension and diabetes, respectively. The other reason given for wanting to lose weight was to improve daily functions such as bending over and walking up stairs. They further believed that an individual's body size should not affect one's self-esteem and happiness.

The study found that many of the women prioritised taking care of their families above taking care of themselves, by changing their health behaviours. It was also reported that women viewed 'no feedback' (no comments) from people as acceptance of their weight and 'feedback' (comments) as criticism of their weight. They viewed social gatherings of eating with family as "support" that their families were accepting of their body size.

These findings, however, as with most qualitative research, may not be generalised to other groups and are specific to the target population.

2.7.8 Study by Moore *et al* (2010), USA

Another study conducted in AA women found that among the overweight women, 44% perceived themselves to be normal weight while 72% of obese women perceived themselves to be overweight, thus indicating underestimation of their body weight. The study further suggests that these women may not have been knowledgeable about how overweight is categorised; or what their own category was. In this group high blood pressure was self-reported in 37% and type 2 diabetes in 11.3%. Obese women in the study thought they had a higher risk of obesity-related diseases while overweight women thought they had the same risk as normal weight women.

2.8 Studies involving males and body dissatisfaction and body perception

2.8.1 Study by Peltzer & Pengpid (2012), S.A.

One of the most recent studies on body weight and body image by Peltzer & Pengpid (2012) in Limpopo, S.A., included black males in their study sample.

The study was conducted among university students and found that a large percentage of particularly the overweight/obese students had misconceptions regarding their body weight. To illustrate, 62.5% of overweight/obese males and 61.1% of overweight/obese

females perceived themselves to be of normal weight. Furthermore, 5% of men in the study were preoccupied with being, or becoming overweight, although a relatively higher percentage of the women, 15%, had the same preoccupation.

This study thus indicated that young black males may also have misconceptions regarding their body size.

2.8.2 Study by Cachelin *et al* (2002), USA

This study examined body image and body size estimation among male and female black and Hispanic groups in the USA. They made use of the silhouette figure rating scale (Stunkard *et al,* 1983) to examine body dissatisfaction, the acceptable female size, the perceptions of underweight and obese female figures and attractiveness of male and female shapes.

Findings show that there was no difference between black, Hispanic and white women in terms of their body dissatisfaction. The men were less dissatisfied with their body sizes than women, regardless of their ethnicity. They were also found to be more inclined to want to gain weight.

The authors concluded that ethnicity did not contribute toward a greater acceptability of obesity in both genders.

2.8.3 A review of literature by McCabe & Ricciardelli (2004)

A review of literature conducted in 2004 looked at body dissatisfaction in males of different ages, including preadolescent boys, adolescent boys and adult men. It appears that the majority of studies were conducted in college/university students and thus the findings may not be specifically applicable to middle-aged and older men.

Results however allude to body dissatisfaction among adult men in terms of wanting to lose weight or wanting to gain weight. There was however no clarity in the literature regarding the implication of weight gain, whether referring to an increase in body fat or increase in muscle mass. The reviewers however surmise that the weight gain referred to may indicate an increase in muscle tone and mass and not to an increase in body fat. This may be because the focus or desire of men in college/university is perhaps to attain

a more muscular build and this may be the reason for body dissatisfaction among this particular group. However, in the case of middle-aged or older men (when compared to college/university students), it is assumed that the older men would want to lose weight rather than gain.

The review concluded that far more research needs to be done, specifically in middle-aged and older men, and that the issues that are of concern to males be the focal point of such research. This needs to be done in order to gain a greater understanding of the topic of body dissatisfaction in males.

2.9 Conclusion

Extensive literature is available in S.A. and internationally regarding body image and body perceptions of women; although far less is available on men. In the USA, AA women have been extensively studied due to the high prevalence of obesity and the presence of co-morbid diseases in this group.

In S.A. the black and mixed ancestry groups have been of particular interest in studies of obesity due to the high prevalence of obesity found amongst them, particularly in women; also with the high prevalence of NCDs reported by numerous studies.

The high prevalence of overweight/obesity in S.A. has also been illustrated by the studies reviewed in this dissertation. Thus the poor perception of black women regarding their body size and acceptance of a larger body size could make obesity prevention and treatment very difficult (Puoane *et al*, 2002) by potentially increase health problems associated with overweight in this group (Goedecke & Jennings, 2005).

Poor body perceptions in South African black females may be further exacerbated by the positive connotations to fatness such as affluence, happiness, respect and good health (Puoane *et al*, 2005) and being taken care of by one's husband/spouse (Puoane *et al*, 2010). In S.A. we also need to take note of the fact that black women may associate thinness with being infected with the HIV virus.

Overall, it is essential to understand the underlying perceptions of body size and body image of people in order to develop sustainable weight loss programs. The researcher has been unable to access such data on educators in S.A., hence the importance of this study.

CHAPTER 3
METHODOLOGY

3.1 Introduction

The following areas are addressed in this chapter: aim and objectives, research design, the study population, sampling, data collection, data analysis, rigour, ethical considerations and study limitations.

3.2 Aim and Objectives of the Study

3.2.1 Aim

The aim of this study was to describe primary school educators' perceptions of own body weight; related health risks and barriers to weight management.

3.2.2 Objectives

i. To determine the BMI of the educators participating in the study
ii. To describe primary school educators' perceptions of their own BWS
iii. To describe primary school educators' perceptions of overweight and obesity, and its health risks
iv. To explore educators' barriers to weight management

3.3 Research design

The study used a descriptive exploratory qualitative design. A qualitative research approach aims at uncovering the deeper meaning of what, how and why people think the way they do around certain issues of overweight /obesity and their related health behaviours. Malterud (2001:483) describes qualitative research as: "…used in the exploration of meanings of social phenomena, as experienced by individuals themselves in their natural context". According to Mays & Pope (1995) an understanding of participant experiences and meanings around certain issues within their natural settings is one of the most important aspects of qualitative research. This is because importance is placed on the meaning, experiences, and perspectives of the participants themselves. The researcher may from that point of understanding further develop or test more general theories or explanations. Frankel & Devers (2000) similarly stated that the researcher doing qualitative research mainly attempts to describe, understand and find meaning from people and the situations they find themselves in. Black (1994) indicates that certain topics are simply better investigated by means of qualitative research

because it has the ability to reveal the details behind an issue, which quantitative research cannot do unless qualitative methods are used in combination with it.

3.4 Study Setting and Study population

S.A. has a small number of privileged schools but more importantly, it has an even larger number of disadvantaged schools. Nationally, schools are grouped into five quintiles, which are dependent on their "income, unemployment and illiteracy of the school catchment area", meaning that each school has a poverty rating according to the community around the school (Motala & Sayed, 2009). Quintile one is therefore considered to be in the poorest community, while quintile five is in the least poor communities (Motala & Sayed, 2009).

The Western Cape Education Department (WCED) consists of eight education districts (EDs) with a district office responsible for the education management in the ED. The Western Cape has four rural and four urban districts as indicated in figure 3.1 below.

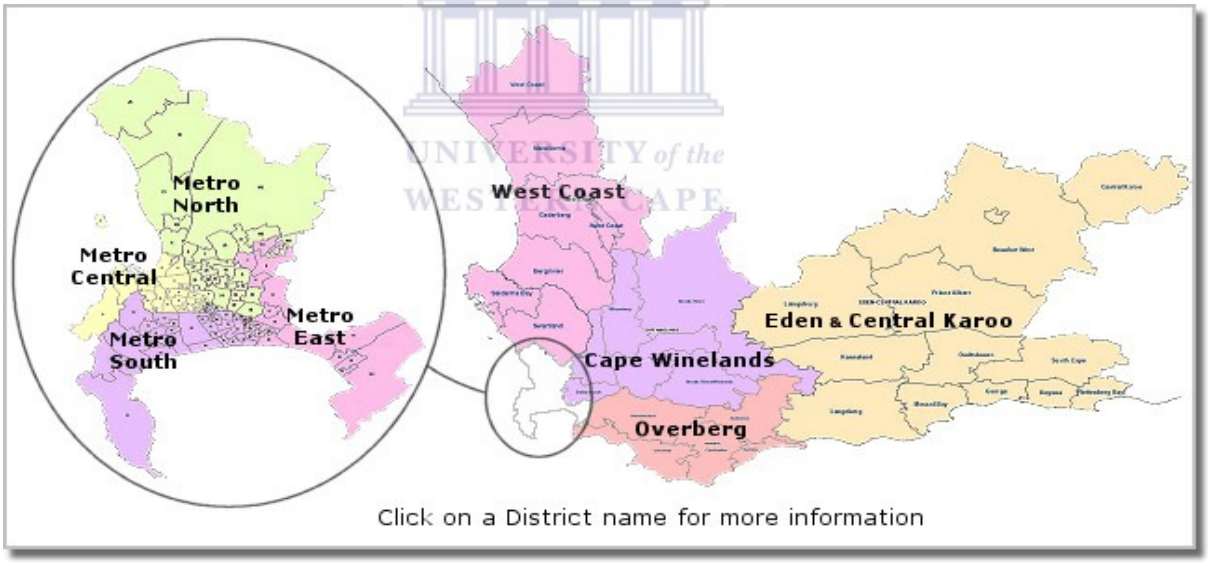

Figure 3.1: Western Cape Education Districts (WCED, 2010).

The schools selected for this study are situated in the Metropole North and Metropole East EDs of the Western Cape Province. The study population consisted of the educators from schools within previously disadvantaged areas in the Western Cape Province.

3.5 Sampling

Four schools were purposively selected from the 100 schools studied in the HealthKick study described in chapter 1. Exclusion criteria used in the selection of the schools: schools with ≤ 10 educators; schools from areas such as Atlantis, Mamre, Durbanville for convenience in terms of travel distance.

The inclusion criteria for educator selection included the following:

- Male and female educators were included.
- The in-depth interview participants selected had to have a BMI ≥30kg/m^2. If it was found that more than one in-depth interview participant had a BMI of 30kg/m^2, the participant with a known NCD (information obtained from self-reported health status) was selected.
- FGD participants included educators with all different BMIs.

The researcher anticipated a total group of at least forty participants to be recruited for the study. Thirty one educators participated in the study. These represented the total number of volunteers who were recruited at the 4 schools included in the sample.

3.6 Data Collection

Data collection took place between March and June 2011. It included anthropometric measurements, focus group discussions and in-depth individual interviews.

After obtaining permission from the WCED, the researcher contacted each selected school's principal telephonically and faxed the WCED permission letter along with a letter explaining the study and requesting permission to work within the specific school. The researcher also visited the schools to meet with the principals and attended a meeting with all educators, where possible, for example during a staff meeting as introduction and to explain the study in person and to be available for questions. At these school visits, the information letters and consent forms were delivered in individually sealed envelopes for each educator.

The researcher experienced some difficulty in contacting the principal and/or educators to arrange school visits in the initial stages of obtaining consent and in arranging

appointments for the FGDs and in-depth individual interviews (IDIs) itself. In some cases, the researcher remained at the school throughout the day simply to avoid rescheduling appointments. And in the case of the anthropometry sessions, the researcher was available at the school from first break time be available to those educators who had only a few minutes free during the day.

3.6.1 Anthropometry

The anthropometry of the educators (N=31) who consented to participate in the study was completed during a school visit prior to the FGDs and in-depth individual interviews. This was done on an individual basis in a private room at the school. The researcher was available at the school throughout the day to accommodate all educators who consented to participate. The researcher however also had to go back to certain schools several times in order to complete the measurements for all the educators. As some failed to arrive or changed the dates agreed on.

Weight of each participant was measured by means of a digital heavy duty floor scale. Each participant was requested to remove any heavy jackets and objects from their pockets and also to remove their shoes. They were then requested to step on the scale and remain still while the reading was taken. The measurement was taken to the nearest kilogram.

Height of each participant was measured by means of a stadiometer. Each participant was requested to remove their shoes and stand barefoot between the two brackets of the stadiometer on the floor, with back and legs straight, heels against the back of the bracket and the chin parallel to the floor, eyes looking straight ahead. The measurement was taken to the nearest centimeter.

Body mass index (BMI) was calculated for each participant by dividing the weight in kilograms by the square of the height in meters (kg/m^2). The BMI is a measure of classifying a person as being underweight, normal weight, overweight or obese. In this study, the WHO classification was used to classify participants into underweight (BMI ≤18.5); normal weight (BMI 18.5 -24.99); overweight (BMI = 25-29.99) and obese (BMI ≥30) (WHO, 2006).

At the anthropometry session, the educators were required to complete a demographic information sheet (Appendix 4), in which information such as weight, height, calculated BMI, gender, age group, marital status and self-reported health status were recorded. This provided the sample characteristics information. The reported health status was also used in the selection of the IDI participants.

3.6.2 Focus group discussions (FGDs)

The FGDs (n=7) were done at 3 of the schools only; because no one wanted to participate in a FGD at the 4th school. The FGDs took place at the school at a time convenient for all participants and the researcher took the school schedule into consideration. It was however a difficult process for the researcher to complete since although a date and time was arranged with the participants of the FGDs, all the educators who agreed to participate were not always available and in some cases, the FGDs had to continue even though some participants were unable to attend it or had decided not to participate.

Some schools had many participants who wanted to participate and thus more than two FGDs had to be held to accommodate all the participants at the school. Each FGD consisted of either male or female, the two gender groups were interviewed separately i.e. male FGDs and female FGDs. Participants of the FGDs were not separated into different body weight categories. The minimum number per FGD was two participants and the maximum number was eight participants. The ideal group focus group size has been documented as 6-8 participants in particular because larger groups may be difficult to handle but one would still be able to obtain a broad range of responses (Millward, 2012).

FGDs allow participants to interact and share ideas and opinions which in the end may provide the researcher with new or differing viewpoints to explore immediately (Kitzinger, 1995; Babbie & Mouton, 2001). The focus groups consisted of educators of different ages, backgrounds as well as experience in terms of their careers in education.

The male and female participants were separated for the FGDs in order to allow for relative homogeneity in terms of gender and, to encourage group dynamics in order to

capture different perspectives from males and females (Krueger & Casey, 2000). The researcher believes that this also allowed for more freedom in terms of expression related to certain ideas and opinions among the groups as they did not need to feel inhibited by concerns about the other gender's opinion. The group dynamics within the focus groups were however not equal; there appeared to be dominant participants along with those who were more reserved. The researcher expected this to be the case and tried to include everyone where possible.

3.6.3 In-depth individual interviews (IDIs)

A total of eight IDIs were conducted from the sample of four schools. The interviews took place at each school at a time convenient to the participants and the researcher also took the school schedule into account therefore most of the interviews took place after school.

The IDIs were conducted in a private room or in the educators' classrooms mostly in order to provide privacy. This privacy allowed the interview participants to be very open in terms of talking about their personal body weight issues. None of the participants, male or female refused to answer any of the researcher's questions and none of them appeared to be particularly sensitive to the questions asked.

The individual in-depth interviews may elicit some of the reasons and feelings behind the participants' beliefs, attitudes or perceptions especially personal and individualised body weight concerns. It also gave the researcher the opportunity to listen closely to explanations from a participant about what they had experienced and to probe deeper into the issue to find links and associations between e.g. what they had experienced and what they believed (Mack *et al*, 2005).

The FGD and IDI guides were compiled after discussion and assistance from the HealthKick project manager and the principal supervisor. The guides were tested through a pilot process conducted in two schools chosen from the HealthKick situational analysis. One FGD and six individual interviews were held in order to test the questions proposed for the FGD and IDI schedules. These were transcribed and the guides were adjusted to some extent depending on the responses from the pilot and finalised

thereafter. Box 3.1 depicts the themes in the semi-structured FGD and IDI guides used in the study to ensure that the selected focus areas were covered with the participants and it also ensured proper use of limited time for such discussions and interviews (Lofland & Lofland, 1984).

Box 3.1. Themes identified for the semi-structured focus group discussions and in-depth individual interviews

Themes for FGDs:

i) Perception regarding educators being overweight (finding from the HealthKick situational analysis)
ii) Perception of awareness among educators of health risks/consequences associated with being overweight
iii) Barriers/challenges experienced at school regarding weight management (eating healthy & exercise)
iv) Ideas (recommendations) on how to address/overcome barriers regarding weight management (healthy eating and exercise) in the school environment.

Themes for IDIs:

i) Perception regarding own current body weight (using the body silhouette figures)
ii) Personal barriers/challenges experienced regarding weight management (healthy eating/exercise)
iii) Personal motivating factors experienced to manage weight (healthy eating and exercise)
iv) Support from colleagues/family/friends in terms of weight management (healthy eating/exercise)

Both the FGDs and IDIs were digitally recorded for accuracy in transcribing. The researcher conducted the FGDs and interviews in the participants' preferred language, which were mainly Afrikaans or English.

3.7 Data analysis

The analysis of the data started during the data collection process when the researcher transcribed the FGDs and interviews. This enabled the researcher to get to know the data, to improve questions or ask questions in different ways and also to see where more information was required to answer the research questions.

The study data amounted to a total number of 15 transcripts and consisted of 7 FGD and 8 IDI transcripts. Certain FGDs and interviews had to be translated for the analysis aiming for consistency in terms of the language. The translations were done by the researcher and a research assistant.

The researcher applied the first step in the analysis process by reading each of the transcripts for familiarisation with the data. The transcripts were read and reviewed several times until the researcher could make notes on the actual transcripts. A summary of the IDIs was completed and forwarded to the principal supervisor for familiarisation with the interview data. The researcher then used the themes from the IDI and FGD guide to highlight relevant information.

Each transcript was imported from MS Word 2010, and loaded as primary documents into the ATLAS Ti 6.0 software programme [Computer-Aided Qualitative Data Analysis Software (CAQDAS) package for qualitative data analysis]. The second step included using these blank transcripts that were loaded; the researcher then started to code the data (from themes identified from the original IDI and FGD guides) and created a code list by using the ATLAS programme. The female and male interviews were loaded and coded together; in the same way the male and female FGDs were coded together as the themes identified for each (i.e. IDI and FGD) were different.

The researcher proceeded to code the transcripts using the themes, and as new/different information emerged, new codes were created and added to the original

code list. As the coding process progressed, some codes could be deleted and merged as deemed necessary.

The codes (and their meanings) plus the themes they were categorised under, along with the quotes under each theme were printed out as ATLAS programme output. These ATLAS output printouts were provided to the principal supervisor and used in discussions of the data. After consultation and agreement with the principal supervisor, the codes and main recurring themes were finalised as per thematic content analysis (Anderson, 2007).

3.8 Rigour

An orderly and clear approach to research design, data collection and interpretation had to be employed in the research study. Thus the approaches employed were meant to guard against bias and to add to the trustworthiness of the results (Mays & Pope, 1995) of the study.

3.8.1Triangulation

Triangulation is described by Long & Johnson (2000) a method which uses several data sources, data collection methods, or different investigators to evaluate the accuracy of the data. Methods triangulation was applied in the data collection process by using 3 different methods of data collection in this study. Focus group discussions and in-depth individual interviews were used with the educators in each school, where similar questions were asked. In addition, body weight perceptions were discussed and body image silhouettes (Pimenta e*t al*, 2009) (Appendix 3) were used as a further method of triangulation in the IDIs. Source triangulation was also applied where the thoughts/opinions and ideas from the individual as well as from a group were obtained to add to the data of this study.

3.8.2 Peer debriefing

The researcher presented and discussed the findings as it emerges from the data collected with knowledgeable colleagues, in this case, the principal supervisor of the study which encouraged further investigation and provided the researcher with a different viewpoint during the stages of data collection and analysis. Cresswell & Miller, (2000: 129) describe peer debriefing as “the review of the data and research process by

someone who is familiar with the research or the phenomenon being explored".

3.8.3 Audit trail

The researcher endeavoured to follow an audit trail procedure in order to have a clear report on all data collection/analysis methods used (Mays & Pope, 2000). Keeping such detailed records of the methods used and also of the analysis process itself is most important to contribute toward the reliability of the study (Mays & Pope, 1995).

3.8.4 Reflexivity

Reflexivity means being aware and also acknowledging upfront the role of the researcher within the research process.

The researcher in this study is a qualified dietician who has experience in private and in therapeutic dietetics in a hospital. The one-on-one contact with individual clients in the counselling process required skills in obtaining necessary information regarding dietary habits and personal behaviours. Such information was necessary to obtain in order to make dietary and behavioural recommendations to effect changes in the individual client. This has afforded the researcher with some skills in interviewing and extracting somewhat sensitive information. As in many of the cases clients were struggling to lose weight or to maintain a healthy body weight. . Strauss & Corbin (1998) is quoted by Rabiee (2004) as describing analysis as being "…the interplay between researchers and data". Thus the researcher's prior experience and knowledge of overweight and obesity may have contributed to obtaining richer data that emerged during the analysis

The researcher was also aware of the sensitivity of the topic of overweight and obesity and also has experience in dealing with it. This allowed the participants to be quite open in their responses and to trust the researcher sufficiently to be honest in their responses. The researcher acknowledged her beliefs, attitudes and biases as the research proceeded so as not to influence the research proceedings (Cresswell & Miller, 2000). The researcher discussed the research process with the principal supervisor on an on-going basis.

3.9 Ethical considerations

Prior to the start of the study, the research proposal was submitted to the UWC Research Ethics Committee for approval. Permission was also obtained from the Western Cape Education Department's (WCED) specific education districts in which the selected schools were located. Each participant received an information letter (Appendix 1) explaining the study and consent form (Appendix 2) which was completed and signed as proof of their agreement to participate. The letter was also provided to assure participants that their information and experiences shared in the study will remain confidential at all times. The signed consent forms in the sealed envelopes were then handed to the researcher at a follow up visit.

The FGD participants were requested not to discuss it outside of the focus group setting, in order to respect each participant's right to privacy. Participants in the FGDs and the in-depth interviews remained anonymous and names were not used in the research. Participation was completely voluntary and participants were able to withdraw from the study at any stage. All documents were stored under lock and key at the Human Sciences Research Council (HSRC).

3.10 Limitations of study

A limitation of the study was access to teachers which further reduced the sample size. Numerous appointments were made with schools and educators which were not kept or sometimes cancelled at the last moment. The school programme may have thus inhibited the participation of more of the educators.

The school programme in terms of the time it allowed educators also impacted on the FGDs and interviews as educators could only be seen after school and even then they appeared to be anxious about the time required to finish the FGD or interviews. Thus time was a limiting factor in the study, also in the depth of the some of the interviews.

In addition to this, the selection of the second interview at one of the primary schools did not conform to the inclusion criteria stipulated in this chapter. The interviewee wanted to partake in the study & FGDs were already complete, thus this extra interview was conducted as well.

CHAPTER 4
RESULTS

4.1 Introduction

This chapter describes the sample of educators who participated in the study. And it further incorporates results of their current BWS, their perceptions regarding their perceived BWS, perceptions of overweight/obesity and its health risks as well as the barriers they identified in weight management. Both the focus group discussion and in-depth individual interview were intermittently incorporated in the results and will be presented in this chapter with the relevant quotes, which were 'tagged' according to its origin. Some data is presented in a 'quantitative' manner, for example, pie charts and bar graphs and *should not be* interpreted as quantitative data.

4.2 Description of the study sample

Table 4.1 provides data on the participants included in the FGDs. There were more females than males (74% vs. 26%) and the majority (53%) were between 45-54 years old. Seventy-four percent were of mixed ancestry with the rest being black Africans. The most commonly (self) reported health problems were high blood pressure and type 2 diabetes.

Table 4.1: Characteristics of the study participants included in the focus group discussions and in-depth individual interviews

Educator characteristics		Number of educators (N=31)	% Educators
Gender	Male	**8**	**26**
	Female	**23**	**74**
Age group	< 35 yrs	**3**	**10**
	35-44 yrs	**6**	**19**
	45-54 yrs	**16**	**55**
	≥ 55 yrs	**5**	**16**
Ethnicity	Black	**8**	**26**
	Mixed ancestry/coloured	**23**	**74**
Reported Health (14/31) problems	Diabetes	**2**	**7**
	Hypertension	**6**	**19**
	Heart disease/heart attack	**1**	**3**
	Stroke	**-**	**-**
	Diabetes & hypertension (combined)	**5**	**16**
Actual body weight categories	Normal weight (BMI 18.5 -24.99)	**5**	**16**
	Overweight (BMI = 25-29.99)	**8**	**26**
	Obese (moderately/severely/very severely) (BMI ≥30)	**18**	**58**

4.3 Current BWS of the educators

A large number of the 31 educators who were measured were overweight (26%) or obese (58%) according to actual measured BMI (Table 4.1).

4.4 Educators perceptions regarding their perceived BWS

The interview participants' BWS compared with their perceived BWS are illustrated in Table 4.2.

The results show that the majority of female educators appeared to have correct perceptions regarding their current BWS while half of the male educators appear to be

underestimating their current BWS. The women however appear to underestimate the severity of their obesity categories. The men who underestimated their BWS were of black and mixed ancestry. The only woman who underestimated her current BWS was of coloured/mixed ancestry.

Table 4.2: Perceived BWS, compared to silhouette categories of Pimenta *et al*, 2009 as obtained from in-depth interviews

	FEMALE (n=4)				**MALE (n=4)**		
	Actual BWS	**Perceived BWS (silhouette chosen)**	**Ethnicity**		**Actual BWS**	**Perceived BWS (silhouette chosen)**	**Ethnicity**
N=1	Severely obese (BMI = 37)	Obese **(F8)**	Black	N=1	Very severely obese (BMI = 45)	Obese **(M8)**	Coloured/ mixed ancestry
N=1	Very severely obese (BMI = 40)	Obese **(F9)**	Coloured/ mixed ancestry	N=1	Very severely obese (BMI = 43)	Overweight **(M7)**	Coloured/ mixed ancestry
N=1	Very severely obese (BMI = 43)	Obese **(F9)**	Black	N=1	Moderately-severely obese (BMI = 35)	Overweight **(M6)**	Black
N=1	Moderately obese (BMI = 33).	Overweight **(F7)**	Coloured/ mixed ancestry	N=1	Normal (BMI = 23)	Normal **(M4-M5)**	Coloured/ mixed ancestry

4.4.1 Feelings relating to current perceived body weight

Acceptance of body weight

A strong theme that emerged from the data was the participants' acceptance of their current body weight (or figure/shape) even though they acknowledged that they were overweight. In most cases the acceptance were however qualified with provisions of not being too fat, being healthy or accepted by a significant other.

> *"I think I accept my figure as it is…I don't want; I don't like to be very slim. And I don't want to be very fat. I know I am overweight."*[IDI-Female, age group ≥55yrs, extremely obese]

> *"…I am the type of person that 'what must be, must be'. As long as I feel healthy on the inside and as long as my husband is satisfied…I am really not someone who places emphasis on figures…"* [IDI-Female, age group 45-54yrs, extremely obese]

One participant also shared her painful experience in reaching and maintaining her current level of acceptance.

> *"But I don't feel anything, in the beginning I felt very uncomfortable because there was a lot of people who still asked me if I was pregnant or so on. As time passed, I finally made peace with it and I continue on and do not allow this matter to discourage me."* [IDI-Female, age group 45-54yrs, obese]

Age appeared to play an important role in the feelings of many of the female respondents as to whether or not they accepted, or were satisfied, with their current figure. It is clear from the following quotes that these participants considered their current weight status to be acceptable and in line with their age.

> *"But I will not go and starve myself because I want be thin and fit into that dress. And my age, I think I am past that stage already."* [IDI-Female, age group 45-54yrs, extremely obese]

> *"So my age goes with my figure. So I am old, I will be 60 next year, so I like this figure I'm having now, goes with my age"* [IDI-Female, age group ≥55yrs, extremely obese]

Dissatisfaction with body weight

While some educators, mostly the female educators appeared to have accepted their current body weight or figure, there were those, especially male participants, who were not completely

happy or satisfied with it. One participant acknowledged that he felt better when he was exercising and that it made a difference in his life in many ways.

> *"Probably about 7 months ago I felt quite proud of how I looked because I exercised a lot and that really made a difference in everything basically, thoughts, how I feel about myself. And my work tasks was easy, I could do much more for the day."* [IDI-Male, age group 45-54yrs, overweight]

Two male educators described their feelings toward their current body weight as "uncomfortable". One struggles to find clothes that fit as described in the quote below.

> *Respondent: Of course I feel uncomfortable about it.*
>
> *Interviewer: You feel uncomfortable…can you elaborate a bit more? Uncomfortable in which way?*
>
> *Respondent: Yes, well, I believe that the additional weight for me will sit around my waist. And it is also sometimes difficult to find clothes for me. Especially if I think, I wear a size XXX and a lot of the shops do not have size xxx. This is actually my problem. One does not get nice shirts in that size especially when it comes to appearance. There are people that are more overweight for example, and they look untidy, to put it that way.* [IDI-Male, age group 35-44yrs, extremely obese]

While another shared his experiences with low self-confidence because of his weight:

> *Interviewer: How do you feel about that…? (Meaning: perceived body weight)?*
>
> *Respondent: I don't feel very comfortable; I have low self-confidence, uhm, I consider starting an exercise program every week but then my cravings for nice food takes over. I'm a cook myself, I like being creative, uhm, my way of relaxing is to cook for my family or for myself and for friends so I place the exercise program further and further away in the future.* [IDI-Male, age group 45-54yrs, extremely obese]

4.4.2 Weight loss history and description of experiences

All of the educators interviewed have tried to lose weight previously or have tried implementing certain changes in their lifestyle to manage their weight. Of the changes mentioned that were implemented were membership to a gym, consultations with a doctor and dietician as well as membership to a specific weight loss programme.

Participants reported positive and negative feelings and experiences with weight loss and weight management efforts. An educator who was a member of the Weigh-Less weight loss

programme reported losing weight and feeling good because it happened while following a balanced eating plan.

> *It was actually very good, you hear, because I was on Weigh-Less and Weigh-Less for me is a balanced eating program. I* lost almost 30kg. *I was incredibly big and when I was done I had reached my goal weight and then I could fit into a size 34.But that was before I was married. You know, that time you were at that stage of focusing on your figure and whatever. So for me, Weigh-less worked out well because it was balanced.* [IDI-Female, age group 45-54yrs, extremely obese]

Another participant described trying to lose weight as a liberating experience but did not reveal whether he actually lost weight during this experience.

> *"It was freeing…freeing in the sense that I've finally convinced myself that today, I'm doing something for myself…"* [IDI-Male, age group 45-54yrs, extremely obese]

He did however describe that his efforts to increase his physical activity by joining a gym failed due to firstly wasting his money by only going for a session once and then again because his schedule was too full.

Another educator described following the advice from health professionals because of her NCD diagnosis and losing weight as a positive result.

> *"…when I discovered that I had Diabetes and got high blood (laughing) and high blood pressure. The doctor sent me to a Dietician. Then he gave me a list of things to try and I tried those things. And I was serious and then I did lose 2kg…"* [IDI-Female, age group ≥55yrs, extremely obese]

While these participants reported positive feelings relating to their experiences, others experienced weight management or weight loss efforts less positively. One participant described it as "difficult" but having to do it because of concerns about her chronic disease status.

> *"It is difficult. It is difficult, but because you are worried, and the doctors now say that you are chronic, you start getting worried, and then you also want to try and lose weight because nobody wants to die, you know. (laughing) So you try hard…"* [IDI-Female, age group ≥55yrs, extremely obese]

A number of participants also described difficulties in persevering with an exercise and/or

healthy eating regime. In the words of one participant: *"Look here, a person does the exercise and you try to eat right but then after a while you just leave it again. I don't know…"* [IDI-Female, age group 45-54yrs, obese]

Some participants were more specific about reasons for not maintaining their diets and these reasons varied from having found it difficult to adjust to eating certain prescribed foods such as cottage cheese and grapefruit; to the times they had to eat; to having to eat less starch. All of these practices were experienced as being difficult because they were not part of the respondents' usual eating practices.

Cost of healthy food was identified by some participants as one of the main difficulties in following a healthy eating plan.

> *…It was diagnosed that I had excess acid in my body. And that is why my diet was based on that but the goal was also to lose weight. I found it difficult to adjust because…And some of the things were expensive. Because if you have to think about your family and then also think about having to put aside a R20 or a R15 per meal time, just for one person then at the end of the day it works out expensive. That was actually the dilemma. So I had to do what was best for the family and work according to your pocket/wallet.* [IDI-Male, age group 35-44yrs, extremely obese]

The same educator was involved in the FGD at the school where the topic of cost related to healthy eating emerged once again:

> *Respondent 2: And if you want to eat a balanced meal, or think healthy, then you must get you fruit as well. And then we must also keep in mind, you must look at your background, do you always have the money to afford a fruit etc. That is also a reason which can contribute to illness.* [FGD-Males, age group 45-54yrs, obese]
>
> *Respondent 2: …Is your affordability*
>
> *Respondent 1: Your affordability* [FGD-Male, age group 34-44, extremely obese]
>
> *Respondent 2: Affordability yes…and that's a fact that many people don't want to talk about but it is like that.*

The inability to successfully lose weight affected one participant in such a way that she reached the point of resignation and acceptance that weight loss was not possible and that she would remain the size/figure that she currently was.

"…I also now thought that is probably how life is destined to be for me. I eat healthy and I try to eat right etc and that is probably how my figure is." [IDI-Female, age group 45-54yrs, obese]

4.4.3 Support from others (e.g. family, friends, and colleagues)

It appeared that there were two different views in terms of some educators wanting/needing support and other who did not.

No support necessary

More than one educator acknowledged that they did not need the support of others in terms of changing their health behaviour.

A female educator did not feel that it would make any difference to her changing her health behaviour; and although she could not explain or pinpoint the exact reason that she felt this way, she appeared sure that she would not change her health behaviour drastically particularly in terms of exercising.

> *To be honest, no. Even if they tell me to do what I don't think. I don't know whether I have given up. I always remind myself that I am old. I am 60 yrs old next year, July. I'll be 60. So I don't know whether I have given up, or maybe it is a negative attitude, I don't know. Because even if they tell me to exercise or doing something else and advise me all those things, I think I will continue as I am. I am just being honest.* [IDI-Female, age group ≥55yrs, extremely obese]

The male educator appeared satisfied because of the fact that he did not need anyone's support or help.

> *"I don't even think about that hence I can manage myself. Yes, so most of the time I don't really need that assistance because I can cope on my own yes, and I'm proud about that…"* [IDI-Male, age group 45-54yrs, obese]

Support wanted

Several educators, however, indicated that they received and appreciated some type of support from either family and/or colleagues.The female educator who participated in the Weigh-Less programme, did so along with family members and friends and commented:

> *"…we supported each other. I was not alone, I was not isolated. I did not feel that I was the only one. We were a group and motivated each other…That means that you need the support from*

your friends and your family…" [IDI-Female, age group, 45-54, extremely obese]

A male educator's idea of a supportive person in a way sums up 'criteria' that he wants from that person.

> *"Just someone in my age group who also has a need to do exercises. Uhm, I understand the value of exercise but I would just like someone who is experienced (salted) or who does exercise at the moment who will say 'come and exercise with'. Just that, I don't ask a lot."* [IDI-Male, age group, 45-54, extremely obese]

The stage that the support is provided appears to also make a difference or to be important to the educators. However, there were differing opinions regarding the timing of the support as indicated by the quotes/comments below; one educator felt that when starting out, a person does not need that much support because "*You are still motivated in the beginning… you are focused. But the longer you are in the program and you start relaxing, then that's when you need the support; to have someone give you a boost or so."* [IDI-Female, age group, 45-54; extremely obese]. She thus indicates to needing long-term support. The programme she is referring to is the Weigh-Less programme that she joined.

Another educator however felt that he only needed support in the initial stage of changing his health behaviour. He added that *"When you've started you can maybe motivate other people on your own. So it's just to get started."*[IDI-Male, age group 45-54yrs, extremely obese].

Comments as support

Some educators felt that comments they received from their family or colleagues were a type of support.

> *"I feel that when you look at my household, my wife asked for example "are you going to sleep now? Are you not going to exercise? And that motivation was there from her side."* [IDI-Male, age group 45-54yrs, overweight]

Another commented that her colleagues would say *"but B*, you are eating too much."* Or *"No man, leave that"* [IDI-Female, age group 45-54yrs, obese]

And her children and her husband would comment on what and how much she is eating and say *"…'that is wrong' or 'that is too much what mummy is eating of'."*She also admitted that the fact

that they constantly "watched" her caused a negative reaction within her and she got upset. Thus it appears that comments may have positive or negative consequences/reactions.

4.4.4 Motivation for weight loss

Participants in both categories discussed a variety of factors that served as motivating factors for weight loss attempts.

Self-image and appearance

Various motivating factors relating to the individual's image and appearance emerged during discussions and interviews.

Several of the participants reflected on the effect looking at old photos had on them, causing them to realise how much their bodies have changed. However, one educator in particular related how the experience stunned her so much, that it motivated her to *eat more* because she was frustrated about how negatively her body changed through the years.

> *"You look at yourself and you see that person of 10 years ago, you don't see yourself as you look now. Now you see it on paper, it's a shock, now that was a motivation for me, you understand? Because then I get so frustrated and I rather eat more and I eat the wrong things."* [FGD-Female, age group ≥55yrs, obese].

One participant pointed out the importance of image as a motivating factor and stated that there has to be a goal/target to work towards otherwise there would be no incentive to change.

> *"The image, the image. Your image. Or there has to be a goal, there must be something set for you to which you want to work toward…But if there's no target, then you won't worry about it because why should you?"* [FGD-Female, age group 45-54yrs, obese]

One educator shared her perception of a "smarter and younger image" if you are thin: "*when you lose weight you will always have that confidence. You will feel smarter and younger."* [IDI-Female, age group ≥55yrs, extremely obese]

The perception that other people perceive your appearance negatively was identified as an important motivating factor for attempting weight loss. Negative comments from people about one's physical appearance or even the way it is perceived motivated some participants to want

to do something to change their appearance. One educator described how she developed a big waist due to her pregnancies and how uncomfortable she felt when people questioned her about it.

> *The main reason for me was first of all was my appearance. My stomach was big and I thought ooh jinne, and person sometimes feels so…a lot of people are sometimes very unwise and would ask me to my face and then you'd think jinne, did the person have to ask it like that or in front of these people and that made me feel very uncomfortable and made me think but I will do something. That is the reason.* [IDI-Female, age group 45-54yrs, obese]

Another described her experience of people "looking" at her was not making her feel good.

> *"…You won't feel free, you won't feel free…when you are amongst people who are, are nice looking people….They'll look at you and you won't feel ok."* [FGD-Female, age group ≥55, extremely obese]

Having to look good for big events in one's life was also perceived as something that will motivate somebody to lose weight:

> *"I can tell you now, if my daughter is getting married tomorrow, then I'll be on diet tomorrow. You understand? Because I now want to look smart, I want to go into that dress."* [FGD-Female, 45-54yrs, extremely obese]

Practical considerations: clothes and mobility

Practical considerations such as not being able to find clothes that fit and having to look and not finding bigger sized clothes was also mentioned as a motivating factor.

> *"More and more I had a problem of finding clothes that fit…Their makes are for thin guys. So it's also the realization that something is wrong, the realization is there…"* [IDI-Male, age group 45-54yrs, extremely obese]

Other 'physical' factors related by participants had to do with own discomfort and lack of mobility; while some identified observing overweight people's physical struggles as a strong motivating factor to do something "not to end up like them".

> *Many times when you see people who are overweight, and you see how wet they are from sweating and how slow they are…Then when I see them I think to myself 'this is the quickest way that I will be able to do something because I do not want to struggle like that'…That would motivate me quickly. I think I would be upset with myself if I have to struggle like that.* [FGD-

Female, age group 45-54yrs, normal weight]

Health

Various participants identified health concerns as either being a potential motivating factor or as something that has motivated them personally.

Several educators were diagnosed with certain diseases/illnesses or had health problems and spoke from personal experience because they needed to lose weight. A male educator was diagnosed with kidney stones and found this to be his main motivation to lose weight.

> *It was the acid part and okay, it was mainly the kidney stones. It was almost as if killing two flies with one step. (laughter). So at the end of the day I do still want to lose weight, but of course without all that other drama and other stuff of having to eat this and having to eat that.* [IDI-Male, age group 35-44yrs, extremely obese]

Another educator's experience was that of suffering from depression and he started exercising to help him improve his mental health, not particularly because he needed to lose weight.

> *"There were several factors. I think the biggest reason was that I was sick for a while, that was last year. And basically my mental health deteriorated almost basically into depression. And I was basically at home; off for depression and I had to do something, okay it did not take it away totally, but it did help a lot especially the exercising…"* [IDI-Male, age group 45-54yrs, overweight]

Ones perception of the risk of developing certain diseases/illnesses may be a major contributor to whether one considers weight loss or not. A FGD respondent commented that:

> *"A person's perception about certain illnesses is sometimes very little or very small. But as soon someone you know gets the illness then it makes you want to take better care of yourself and change your eating habits and other things."* [FGD-Male, age group 45-54yrs, overweight]

Similar responses came from other respondents in the FGDs as most of them knew of a family member, a friend, or an acquaintance or just knew "of someone" who has a disease/illness and are overweight. This knowledge appeared to motivate one particular educator through his fear of developing a NCD.

> *… I'm very scared and careful, with the knowledge in the back of your mind; I won't really want to be a diabetic… I go regularly, maybe quarterly I go and test my sugar levels, my blood pressure, I*

don't have those problems etc, luckily not…I currently have a brother who is also a diabetic and it affects him relatively and you can see in his health. And that is why I try, I tell myself; I won't be the one who will also have diabetes, or sugar disease as the old people called it. [FGD-Male, age group 45-54yrs, obese]

While some respondents indicated that a diagnosis of a specific disease prompted them to embark on a weight loss regime, there were also those that believed that a larger body size protects against illness/disease, as the following conversation reflects:

Interviewer: … And can I ask you now how do you feel about that? That your shape...how do you feel about your shape right now?

Respondent: I'm not satisfied...I wanted to bring it down...

Interviewer: Is there...?

Respondent: The reason is to minimise you know these sicknesses like high blood, hypertension and so forth, sugar diabetes. So you know if your figure or your body is sizeable then you are safer. It doesn't mean that you won't get anything but at least there's a slight guarantee that you may survive or live, live a longer life if you look after yourself. [IDI-Male, age group 45-54yrs, obese]

Example to others

Another interesting response from an educator regarding her motivation/reason to lose weight referred to her influence on her grandchildren.

"And also, I have two grandchildren and I want to be an example to them. 'Practice what you preach'. I would not want them to be overweight one day." [FGD-Female, age group 35-44yrs, overweight]

Too young to be overweight

Age was previously discussed as being associated with acceptance of perceived body weight. Contrary to that however, one female educator described not finding her 'big' size acceptable because of her age. She described this as her motivation for wanting to lose weight, along with being engaged with plans of marriage.

> *"I wanted to lose weight because at that stage I was engaged and I had a reason, a goal and I also felt at my age that I was still young to be so (big).'*[IDI-Female, age group45-54yrs, extremely obese]

4.5 Perceptions of overweight/obesity and its health risks

4.5.1 Perceived causes of overweight/obesity

Figure 4.1 below shows that a variety of perceived causal factors for overweight or obesity emerged from the focus group discussions, some merely possible causes and in some cases it was specifically experienced by educators.

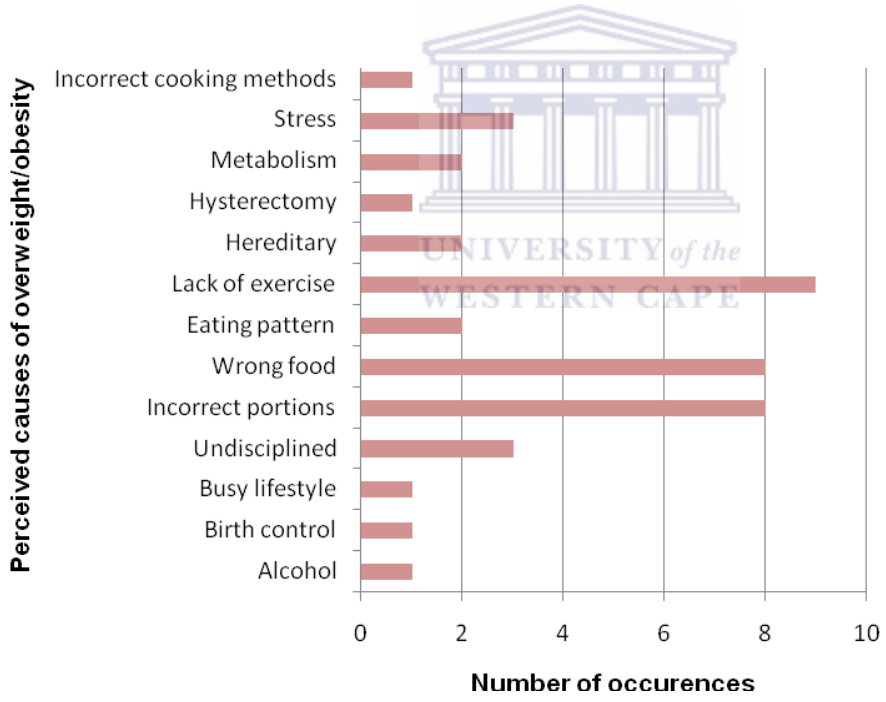

Figure 4.1: Perceived causes of overweight/obesity

The most mentioned perceived causes that emerged from the data were eating incorrect portions, eating the wrong foods, and lack of exercise. However, stress and a lack of discipline also emerged as causal factors.

> *"When people stress then a lot of them start eating unhealthy and start eating chips and so on just to forget. And that is how people become fat, unhealthy overweight."* [FGD-Female, age group ≥55yrs, obese]

A female educator specifically related her experience with poor eating habits when she stopped smoking and described it as follows: *"…It is as if you are lacking something, that there is something missing, something you must do."* [FGD-Female, age group 45-54yrs, extremely obese]. And further she also described it as having to "replace" the smoking habit with eating.
Alcohol was also identified as a culprit in weight gain, particularly with regard to abdominal fat gain (Figure 4.1).

Among all of the many comments heard from educators, one educator honestly stated *"I personally do not know why people are overweight."* [FGD-Male, age group 45-54yrs, normal weight]. This may refer to a lack of understanding of the mental state of someone who becomes overweight or simply not understanding how someone cannot look after their health adequately and ends up becoming overweight. Or there is a plain lack of awareness as to what causes overweight in people.

4.5.2 Body image silhouettes and perceived extent/degree of health problems

Educators in the interviews were shown the body silhouette figures and asked to identify which silhouettes they perceived to be associated with the least and with the most health problems.

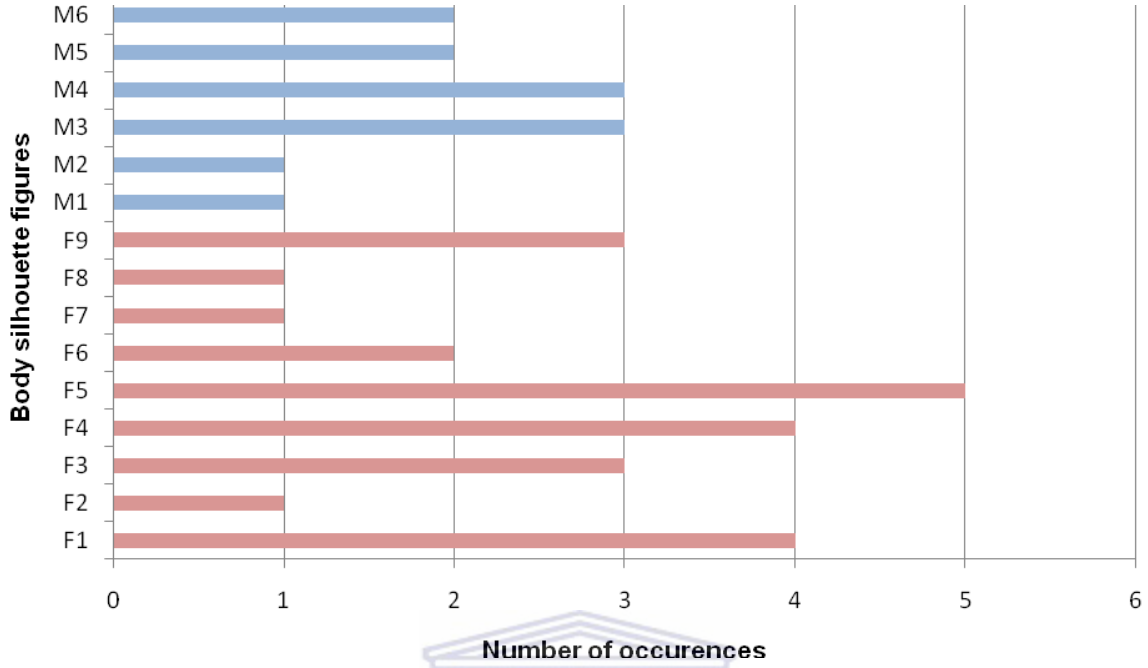

Figure 4.2: Body silhouettes selected by the participants as being associated with having the least health problems based on in-depth individual interviews

Figure 4.2 shows that the body silhouettes selected varied a great deal in terms of being associated with having the least health problems. The normal weight female figure (F5) was selected most frequently as being associated with having the least health problems. Interestingly, the overweight male figure (M6) and the obese female figure (F9) were among those mentioned as being associated with having the least health problems. Of particular concern was that the obese female figure emerged as being among those associated with having the least health problems.

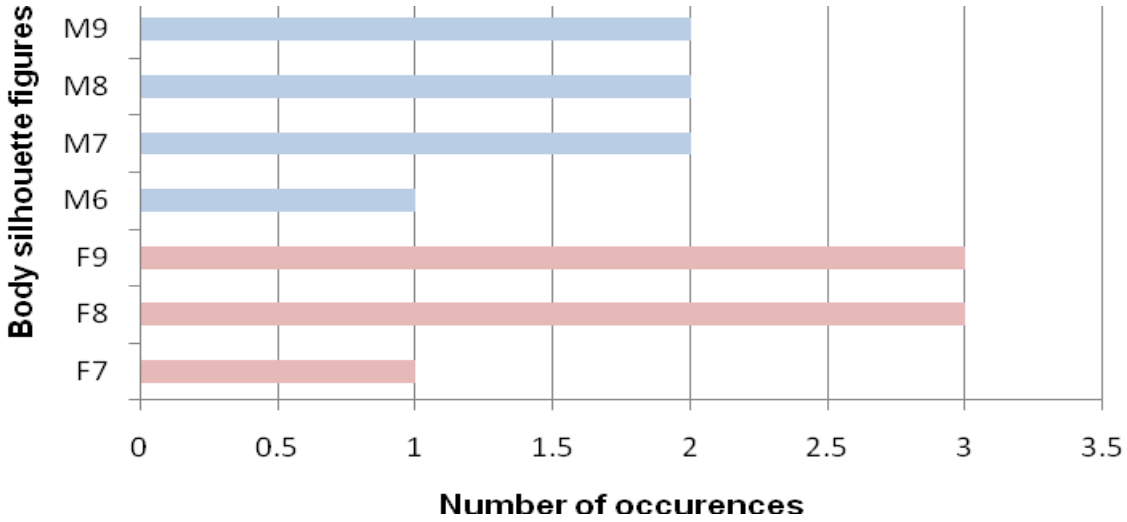

Figure 4.3: Body silhouettes selected as being associated with having the most health problems, based on in-depth individual interviews

Figure 4.3 shows that the body silhouettes selected by the participants did not vary a great deal in terms of being associated with having the most health problems. The figures mentioned ranged from the overweight male figure (M6) to the obese male and female figures (M9/F9). Thus the overweight and obese figures mainly emerged as being associated with having the most health problems. Among the women, the obese figures were selected most often and among the men, the overweight and obese figures were selected equally.

4.5.3 Educator recognition of specific health conditions, NCDs and the link to excess body weight

Participants were asked about specific health problems related to overweight and obesity. Figure 4.4 shows that diabetes was the most frequently mentioned condition in the FGD transcripts; followed by high blood pressure and heart problems.

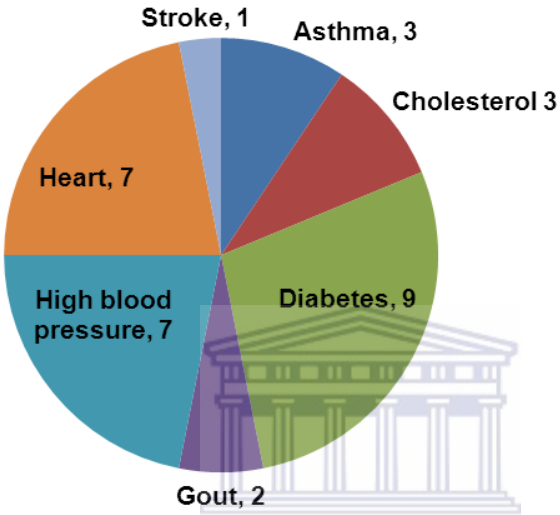

Figure 4.4: Specific health conditions associated with being overweight/obese based on the focus group discussions

Some educators correctly perceived these diseases/conditions as being hereditary and not merely applicable to being overweight as highlighted in the comment below:

> *"It does not only apply to someone that is overweight only instead of one who is underweight. Look at myself and Mr. A* for example, I am a bit bigger than him but we have the same body build, but that does not mean that Mr. A* will not get a heart attack because he is thin."* [FGD-Male, age group 45-54yrs, overweight]

One educator in particular correctly stated that "*being overweight increases your chances of getting those illnesses."* [FGD-Female, age group 45-54yrs, overweight]. Referring to the conditions mentioned in Figure 4.4. Hence overweight was identified as being a cause in the development of NCDs or their risk factors.

There thus appeared to be a realization among these educators that illness/disease goes along

with excess body weight. The words of this educator describe it well.

> *"I loved eating nicely but suddenly I realized I'm getting bigger, I'm getting older and what you eat makes you sick and affects your health."* [FGD-Male, age group 45-54yrs, obese]

4.6 Perceived barriers to weight management

4.6.1 Personal barriers experienced by the educators

A number of barriers to weight management emerged from the IDIs and the FGDs and are described further.

Undisciplined

The comment below shows a lack of self-discipline or self-control but also conversely indicates having knowledge of unhealthy foods. So even if there is the negative acknowledgment of a negative response, there is an indication of possessing health knowledge.

> *"If you are as undisciplined as I am then I will go to the tuck shop that sells all the wrong things, then they don't even sell fruit or sandwiches but sweets and chips and all those other things…"* [FGD-Female, age group 45-54yrs, obese]

Lacked motivation

This educator found it difficult to motivate herself to exercise and thus simply gave up on exercising.

> *"…Now when I exercise by myself and then got tired, then I just stopped**…**You have to be motivated. You have to tell yourself "I want to achieve it", and then you have to go on with what you are busy with. But in my situation it was just ag, I'll leave it now…"* [IDI-Female, age group 45-54yrs, obese]

Shortage of money

The cost of joining a gym appeared to be too much for some educators.

> *"Finances, too, finances too. Shortage of money at times; it's not every day that one can budget for an exercise regime so that is also a factor."* [IDI-Male, age group 45-54yrs, extremely obese]

Another was advised by a dietician to exercise as part of change to his lifestyle in order to lose weight. He cited cost as being one of the obstacles that kept him from exercising.

"No, she told me to do exercises by walking and so on or to do some light jogging or to join a gym and that type, but I never did. Because most of those things cost's money…" [IDI-Male, age group 35-44yrs, obese]

Sticking to the diet

For some educators their major challenge was maintaining changes to their diet.

"It was probably to stick to the diet. That is actually the most difficult part…to stick with it." [IDI-Male, age group 35-44yrs, extremely obese]

One specifically referred to the way of eating that he was used to since childhood. Changing this aspect of his diet would appear to require a whole mind shift as starch is a well liked food in his culture.

"…it's tough because it's a challenge you know. One of the things, the question of diet, that's the major one. To me exercise is not a big deal…But the part of diet is the one I'm still working on it, it's tough because our background we have been eating a lot of starch, we grow up eating starch a lot. Now you can think in terms of shifting now from that; it's not an easy thing." [IDI-Male, age group 45-54yrs, obese]

Cannot exercise

In this comment, the educator is not merely acknowledging that she does not exercise but also that she lacks the self-motivation to start doing it.

"It is the exercise. I can't exercise. It is not in me to exercise, that is why it is better if I take a walk… I think the biggest challenge was to tell myself to exercise; I must go now. And many times I made excuses being tired or I have to do something else first…" [IDI-Female, age group ≥55yrs, extremely obese]

4.6.2 Specific barriers experienced by educators in the school environment

An important and strong theme that emerged from the interviews around barriers to weight loss/management specifically within the school environment, revolved around the educators having "too little time" for this.

Too much work

This educator emphasized how much "writing" they are required to do and the administration work involved in their daily tasks, in addition to teaching.

…You know, you get so tired, we are doing a lot of work at school; always sitting down writing, writing, writing…Ja, we are doing a lot of sitting down. After the children are gone we are writing, we are ooh, a lot of work, administration. Doing a lot of administration. By the time we get home, we're so tired. You eat and then you go back to sleep. We are tired, so we don't have time for us. You know, just to relax. We are always thinking, ooh tomorrow I must do that, ooh I must do, ooh I must write that, ooh I must…you know. Our department is not giving us any chance. [FGD-Female, age group ≥55yrs, obese].

The workload at school also appeared to have negative consequences at home in terms of him being too tired after work to consider exercising; but also appearing not to relax completely as he is always thinking about the next day of work that awaits.

Meetings and workshops

Another educator described how meetings and extra-mural activities do not take place within school hours.

"Our situation is that you are rarely on time. There's sport, there's culture there's governing body, there's meetings in the district, and it's not the usual 8-3". [IDI-Male, age group 45-54yrs, extremely obese]

Upon probing by the interviewer, the *same* respondent elaborated:

Interviewer: And is it, do the things happen after school?

Respondent: In the most cases yes, the meetings around here with the department start at 3 and end normally at 5, 5h30. Then I must spend an hour and a quarter to get home and then you are exhausted

Interviewer: And weekends, do you have anything on a weekend?

Respondent: Weekends…there are times when we have to attend workshops weekends, Saturdays sometimes half day sometimes whole day, 9-5pm so essentially you're pulling on the shortest end.

It appears that the educator felt that they were being deprived of *their own* time.

Too short break-times

Another aspect related to having "too little time" identified by some educators was the short and busy **school break times**. One female educator describes the "rush" during break times:

> *"What about ixesha* (time in Xhosa)*…then you have to eat quickly. The short break, the lunchtime break is very short and then when you eat, you must eat quickly so that when the bell rings, you must rush to the class whilst you are still, you know, absorbing that food, you see…"* [FGD-Female, age group ≥55yrs, obese].

Responsibilities during break-times

The comment below describes break-times as being a busy time for educators because their responsibilities do not end even then.

> *"...Sometimes when the bell rings maybe at 12 'o clock, even at 12 'o clock you have to first tidy the kids. See that the time now is running. The kids have to get out. When you are there, having your lunch, you sometimes have to stand there and look at the kids while you are doing playground duties. And there's those prefects, they must come and report to you. So you don't have time to relax and eat.* [FGD-Female, age group 45-54yrs, obese]

And these responsibilities appear to add to their lack of time, preventing them from being able to eat their lunch in a properly relaxed atmosphere.

4.7 Conclusion

The findings of the study show that overweight and obesity are a problem in this sample of educators. A variety of positive and negative perceptions, experiences and feelings related to the problem of excess body weight emerged, and were described in this chapter. These findings will be discussed and recommendations will be made in the next chapters.

CHAPTER 5
DISCUSSION

5.1 Introduction

In S.A., educators have been identified as being at high risk for the development of NCDs due to the high prevalence of overweight and obesity found amongst them. In this study, their perceptions, experiences and feelings regarding their weight status were explored and described. In this chapter these findings are discussed in order to contribute to the body of knowledge, regarding obesity in educators

5.2 Main findings regarding educators' perceptions of body weight

i) Current BWS and perceptions relating to it

Despite the fact that this was a small and non-random sample, very few of the educators in this study were normal weight and the majority were classified as being either overweight or obese. This is in line with the findings from a survey of primary school educators in the Western Cape which found that almost 80% of educators in the schools studied were overweight (31%) or obese (47%) (Ndamane *et al*, unpublished data).

Contrary to expectation, most of the female educators perceived their current BWS to be correct when compared to their actual BMI categories. However they appeared to be unaware of the *severity* of their level of obesity. On the other hand nearly half of the male educators had incorrect BWS perceptions compared to their actual BMI categories.

Numerous studies in S.A. have found underestimation of body weight or size to be common among women (Puoane et al, 2005; Befort et al, 2008; Moore et al, 2010). Underestimation has also been found among men in S.A., though in a younger age group (Peltzer & Pengpid, 2012).

With regard to culture and ethnicity, earlier local studies have shown that both the black and mixed ancestry groups misjudge their body size status (Puoane *et al*, 2002; Mchiza *et al*, 2005). There do, however, appear to be fewer studies on the mixed ancestry group.

As mentioned previously, the severity of their obesity may not be known to the women in the present study. This is most probably due to ignorance of degrees of severity of obesity. Furthermore, they may be unaware of the risks involved in carrying so much excess body weight. Moore *et al* (2010) speculated on reasons for underestimation of weight status among

overweight and obese African American (AA) women. Their possible reasons suggested: the women are knowledgeable but ignorant about their own weight category, they are uninformed about their own weight category; or not knowledgeable about how overweight/obese is categorized.

ii) Feelings related to their perceptions of BWS

The finding that many female educators in this study expressed acceptance of their overweight/obese body weight is worrisome since this may have negative implications on their health behaviour and indicates a possible resistance to wanting to change. This acceptability of body weight is however consistent with other studies undertaken in S.A. These studies have found that the acceptability of their overweight body size or shape by women may be related to cultural influences of their communities, and appear to be common in women of all age groups (Caradas, 2001; Puoane *et al*, 2005; Puoane *et al*, 2010).

A surprising or interesting finding emerged from the data of a black, male educator. In a contradictory comment he refers to reducing illness as a motivating factor for losing weight but thereafter states that a "sizeable" body/figure is "safer". By "safer" he appears to mean that a person has a better chance of living a longer life. This may perhaps be related to or due to the negative connotation to HIV/AIDS and a smaller or thinner body size. This appears to be a cultural/ethnic belief within the black community since other studies in S.A. reported similar findings (Puoane *et al,* 2005; Puoane *et al,* 2010; Faber & Kruger, 2005).

Two main issues relating to dissatisfaction with their current BWS were expressed by the men in this study, namely feeling physically uncomfortable, and secondly, not finding clothes that fit when shopping for new clothes. Similar issues were also identified by Mvo & Steyn (1999) as reasons for dissatisfaction among women. However, none of the studies on men, not even a review on body dissatisfaction among men, described this experience. Thus this finding that men have a similar experience to women may represent some new information to the field.

Dissatisfaction with body weight may affect a person sufficiently to result in positive health behaviour, namely weight loss, to improve health. Or it may affect a person negatively to the degree that they develop a negative body image resulting in body image distress or dissatisfaction (Anderson *et al, 2002)* and thus exacerbating the problem of negative health

behaviours such as overeating (Friedman & Brownell, 1995). The fact that one educator admits to having low self-esteem may be such a situation. Low self-esteem may be the result of having a negative body image. This finding is supported by Friedman *et al* (2002), who noted that obese individuals who are seeking treatment for weight issues, in contrast to normal-weight individuals, have a more negative perception of their body and also suffer to a greater degree from depression and low self-esteem.

iii) Weight loss experiences

All of the educators who participated in the IDIs had previously attempted to lose weight or to manage their weight and these attempts had resulted in either positive or negative experiences. The negative experiences were described as the “difficulty” in trying to lose weight and in some instances, feelings of resignation surfaced during attempts to change health behaviour for the better. Frequently, if no results were seen, the efforts were thus simply abandoned. Among the positive experiences described by educators, actually experiencing weight loss appeared to be a very positive experience.

iv) Support from others (e.g. family, friends, and colleagues)

It appeared that either support was wanted or it was not needed at all. Those who wanted support appeared to express it to be a necessity for successful weight loss experiences; others did not want to go through the weight loss attempt alone. The support that they do receive would need to be there at different stages of the weight loss experience, for some at the beginning stage, for others not initially but for the long-term. Chang *et al* (2008) found similar results regarding encouragement from others in their study where the women believed that support would assist with long-term weight loss.

The overweight and obese women (Chang *et al* (2008) in reality pursued the advice of other people. An educator in this study indicated toward seeking such advice when he summarized "criteria” of what he sees in a supportive person to assist with weight loss.

Those who felt that they do not want support believed that it would be futile because it would not change anything in terms of their health behaviour. While others felt that they are independent and thus do not need the support from anyone.

With regard to support during weight loss/management, some of the educators interpreted comments from friends, family or colleagues as a type of support. Contrary to this study's finding, a study by Befort *et al* (2008) found that their AA female participants viewed comments or 'feedback' regarding their weight as disapproval from people. In the present study, one female educator however admitted to being 'upset' because of some of the comments from her family; because it made her aware that she was being constantly 'watched' or monitored by them. Thus it appears that comments from friends, family or colleagues may have positive or negative consequences/reactions.

v) Motivation for weight management/weight loss: perceptions and experiences

The main findings that emerged regarding motivating factors for weight loss included self-image; appearance; finding clothing; mobility; and health and are supported by the findings from previous studies in S.A. (Mvo & Steyn*,* 1999; Puoane *et al,* 2005; Puoane *et al,* 2012;) as well as in the USA (Befort *et al,* 2008; Chang *et al,* 2008), among different ethnicities.

This appeared to be an important finding particularly in relation to how other people viewed their appearance. One female educator mentioned that she did not feel good about herself when 'nice looking' people looked at her. Literature suggests that society looks at overweight/obese people with a lack of sympathy because they are the cause of their own overweight/obese bodies (Schwartz & Brownell, 2004). Chang *et al* (2008) reported that women in their study felt depressed because of how others would judge or view their body sizes.

Also of interest was the finding that a few of the educators described looking at old photos of themselves. Thus they appeared to compare their current body to their size in the past. This comparison and/or the perception of their size by others may have led to a negative perception of themselves to the point of depression or low self-esteem (Friedman *et al,* 2002).

One educator in particular stands out because of her reaction after she had looked at her old photographs. It appeared to have motivated her to actually eat more instead of motivating her to curb her eating habits. This is indicative of body image distress since her reaction showed a loss of control of her eating habits (Friedman & Brownell, 1995).

Another educator shared her painful experiences about how uncomfortable she felt because people looked at her and thought that she was pregnant. A similarly finding emerged in the

study by Puoane *et al* (2005) where a participant in the study by commented that people often think that someone is pregnant when they are merely overweight.

As mentioned earlier, in both women and men in this study, it was found that not being able to find clothes that fit emerged as a motivating factor to lose weight. These findings have also been found by Puoane *et al,* 2010 in preadolescent schoolgirls and in adult women aged 18 to 36 years old (Puoane *et al,* 2005). Not being able to fit into their clothes anymore contributed to feelings of dissatisfaction with their body size (Mvo & Steyn, 1999). Similar motivational factors to lose weight emerged in a study in the USA (Chang *et al,* 2008) among low-income overweight and obese women.

Lack of mobility was also given as a prominent reason for educators wanting to lose weight in the current study. Befort *et al* (2008) found that African American women associated losing weight with the proper basic functioning of their bodies whilst performing activities such as bending and walking up and down stairs. Chang *et al* 2008 also found their participants speaking from personal experience of physical discomfort such as their inability to climb stairs. Educators in the present study indicated that they viewed the 'struggle' of overweight people as a motivating factor because they did not want to end up 'struggling' like them.

Several educators in this study indicated that they had certain health problems or conditions and needed to lose weight for that reason. Such concern for health was reported by Befort *et al* (2008) as being the main reason for their participants wanting to lose weight. Chang *et al* (2008) reported that concern for health, for example diabetes, would be one of the factors that would potentially motivate their participants to lose weight. Anderson *et al* (2002) suggested that body image becomes more important to a person who has to lose weight for health reasons, such as the diagnosis of a NCD. Ones perception of the risk of developing certain diseases/illnesses may be a major contributor to whether one considers weight loss or not.

5.3 Main findings relating to educator perceptions of overweight/obesity and its health risks

i) Perceived causes of overweight/obesity

The identification of contraception, the pill (non-specific in this case) or specifically the injection, as a cause of overweight/obesity in the female educators was supported by Mvo *& Steyn* (1999)

who found that women in their study blamed their weight gain on the use of contraception;

With regard to dietary habits and weight gain, participants in the present study indicated that having too large portions was given as a cause for overweight/obesity. This is supported by the study of Mvo & Steyn (1999) who reported that overeating was a cause for weight gain in their participants in Cape Town. However, a survey by Faber & Kruger (2005) did not rate overeating high on their list of causes of overweight as only 9% believed that overeating was the main cause of weight gain. However, 39% believed that poor eating habits were the cause of overweight. Eating the wrong foods and skipping a meal like breakfast were identified as major causes of weight gain by Puoane *et al* (2005).

Other perceived causes of overweight/obesity the educators mentioned, in this study included the following: not eating the right foods; not exercising; a hectic lifestyle; and stress. These were regarded as contributing to both eating too much; and eating the wrong foods. Stress as a perceived cause was also reported by Chang *et* al (2008) *because* of the women's busy lifestyles. Thus they also experienced difficulty in eating healthy during stressful times. Educators are known to suffer from stress due the demands and scope of their work (Draper, Kolbe-Alexander & Lambert (2009), even more so than non-educators (Cox & Brockley, 1984).

ii) Specific health conditions

Health conditions such as type 2 diabetes, high blood pressure and heart problems were reported by numerous participants in the current study and overweight was identified as a cause in the development of such conditions. Puoane *et al* (2005 & 2010) similarly found that participants associated high blood pressure, diabetes and heart disease as health problems associated with overweight or fatness.

5.4 Main findings regarding the perceived barriers to weight management

Both personal and barriers relating to the school environment were identified and described by the educators.

i) Personal barriers

Some of the personal barriers identified in the current study have been documented in previous studies describing barriers to changing health behaviour and related to unhealthy diet or

physical inactivity. For instance, the barrier of "giving up favourite foods", an example is the educator in this study who identified eating less starch and not being happy about it. Other participants' barriers in this study varied from having found it difficult to adjust to eating certain prescribed foods such as cottage cheese and grapefruit.

Some of the foods the educators "thought they had to" or were 'told to eat", were costly or not affordable and thus were at times given as the cause of 'defaulting' on their diets. This finding regarding cost of healthy foods is supported by other studies in different countries (López-Azpiazu *et al,* 1999; Kearney & McElhone, 1999; Biloukha & Utermohlen, 2001).

Costly foods and inappropriate foods may be a huge challenge to healthy eating especially among the disadvantaged communities in S.A. Foods should be healthy, cost-effective and ethnically/culturally appropriate when prescribed in order to enhance/boost chances of the person using them and following a healthier eating plan.

Similar to other studies, lack of motivation (Andajani-Sutjahjo *et al*, 2004) and willpower (López-Azpiazu *et al,* 1999; Biloukha & Utermohlen, 2001) were also identified as barriers to healthy eating in this study. For instance, one educator related her comment on self-motivation to when she had to exercise and another referred to her lack of willpower (self-discipline/self-control) in an example of succumbing to unhealthy foods.

ii) Barriers specific to the school environment

Two barriers namely, having too little time or having a heavy workload are important findings of this study. The identification of time as a barrier was a strong theme that surfaced specific to the school environment. Educators described having too much work, including much administrative work; spending a lot of time in meetings and workshops; having too short break-times and having responsibilities during school break-times; as barriers specific to the school environment.

Due to the shortage of time experienced, there is the belief that they are in essence being deprived of their personal time. This may be time they would have spent with their family, or time they may have spent on themselves, or perhaps time used for exercising. Another educator specifically refers to the DOE "not giving them a chance", which may indicate that he faults them in part for the heavy workload and lack of time.

5.5 Conclusion

The study results brought issues to the fore that affects educators personally; some being the direct result of the school environment. These may need to be explored further in order to sketch a fuller picture of their specific context because literature regarding this group is particularly limited.

CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter concludes the findings and draws recommendations based on the findings of this study.

6.2 Conclusions

The aim of the study was to describe primary school educators' perceptions of own body weight; related health risks and barriers to weight management in the Western Cape. A description of these aspects related to educators may be important in the development of a weight management/weight loss intervention to address the problem of overweight/obesity in schools.

The main findings of this study were that overall both females and males underestimate their body weight/size, women to a greater degree than men. However they are conscious of their size and sensitive to comments by others. Furthermore they appeared to be aware of health risks associated with being overweight, and were troubled by their appearance; lack of mobility suffered by the obese; and by difficulty in finding clothes that fit.

Certain barriers relating to weight gain were identified with cost of healthy foods; having to give up foods that were "liked"; and lack of motivation and willpower to maintain a healthy diet being the main personal ones. However certain aspects regarding their work environment also created barriers to weight loss. In this regard educators were frustrated by their heavy workloads and by lack of time available for personal use.

As an important limitation to the study, it needs to be recognised that the results of this study cannot be generalised to all educators in S.A. due to the small sample size and the local nature of the region studied.

6.3 Recommendations

Based on the findings of the study the following recommendations are made:

Firstly, the DOE should be responsible and involved in the development and implementation of a sustainable health and wellness programme for educators. Such a programme should be

aimed at inculcating and maintaining a healthy lifestyle. Hence it should be inclusive of sound dietary and physical activity, activities.

Secondly, time was mentioned as a very important consideration; therefore a health and wellness programme should either be incorporated into the school programme or it should take place after school or on special/specific days arranged by the DOE. Else such a programme could form part of staff development or team building, where specific time is set aside for the educators.

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Appendix 1

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INFORMATION SHEET

Project Title: Exploring perceptions concerning body weight, overweight and obesity and its health risks and barriers to change health behaviour of primary school educators in Western Cape, South Africa.

What is this study about?

This is a research project being conducted by _____at the University of the Western Cape. We are inviting you to participate in this research project because you are a primary school educator in the area within which we wish to conduct our research and may have insight into the topic being researched. The purpose of the research is to gain a better understanding of educators' perceptions around issues related to body weight management.

What will I be asked to do if I agree to participate?

You will be asked to participate in either a group discussion or one-on-one interview at your school. The group discussion and interview will take place after school on a day which is suitable for all. The group discussion should be approximately one hour and the interview approximately 45 minutes to an hour.

The following themes will be covered in the group discussion:

i) Perception regarding overweight/obesity; ii) perception of awareness among educators of health risks/consequences associated with being overweight; iii) barriers/challenges experienced at school regarding weight management; iv) how to address/overcome barriers at school regarding weight management.

The following themes will be covered in the one-on-one interview:

i) Perception regarding own current body weight; ii) personal barriers/challenges experienced regarding weight management; iii) personal motivating factors experienced for weight management; iv) the influence of colleagues/family/friends on weight management.

You will also be asked to measure your body weight (using a scale) and measuring your height (using a measuring stick); the measuring session may take place on the same day as the group discussion or interview or on a different day, depending on the time available. It should not take longer than 5 minutes per person.

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality, any recording or documents used relevant to the study will be stored under lock and key. All computer files or documents will be password protected, only accessible by the researcher. Only those participating in the group discussion will be allowed in the session and all participants will be requested not to discuss it outside of the focus group setting, in order to respect each participant's right to privacy. The interviews will be conducted on a one-to-one basis, with only the researcher and the participant present. The group discussion and interview will be recorded using a digital recorder, for transcription purposes only. You will not be identified by name or by school on the transcription of the recordings or other documents and all information shared will remain confidential. For reporting purposes, i.e. the writing of a report or article about this research project, your identity will be protected as far as possible.

What are the risks of this research?

There are no known risks associated with participating in this research project. There are also no costs involved in participating in the study except for the time you will be spending in the group discussion or interview.

What are the benefits of this research?

This research is not designed to help you personally, but the results may help the investigator learn more about perceptions of educators relating to overweight/obesity; the awareness of its health consequences; to their BWS, health risks and certain health behaviours for weight management.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

Is any assistance available if I am negatively affected by participating in this study?

Should you feel that you are negatively affected by your participation in this study, you may be referred for counselling to assist you with the issue encountered.

What if I have questions?

This research is being conducted by _____School of Public Health at the University of the Western Cape. If you have any questions about the research study itself, please contact _____ ***[principal investigator's name]*** at: _____ _____ ***[Address, telephone number, and (if appropriate) e-mail address of principal investigator.]***

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department:

Dean of the Faculty of Community and Health Sciences:

University of the Western Cape

Private Bag X17

Bellville 7535

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

Appendix 2

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

Tel: +27 21-959, Fax: 27 21-959

E-mail:

CONSENT FORM

Title of Research Project:

Exploring perceptions concerning body weight, overweight and obesity and its health risks and barriers to change health behaviour of primary school educators in Western Cape, South Africa.

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name……..

Participant's signature……..

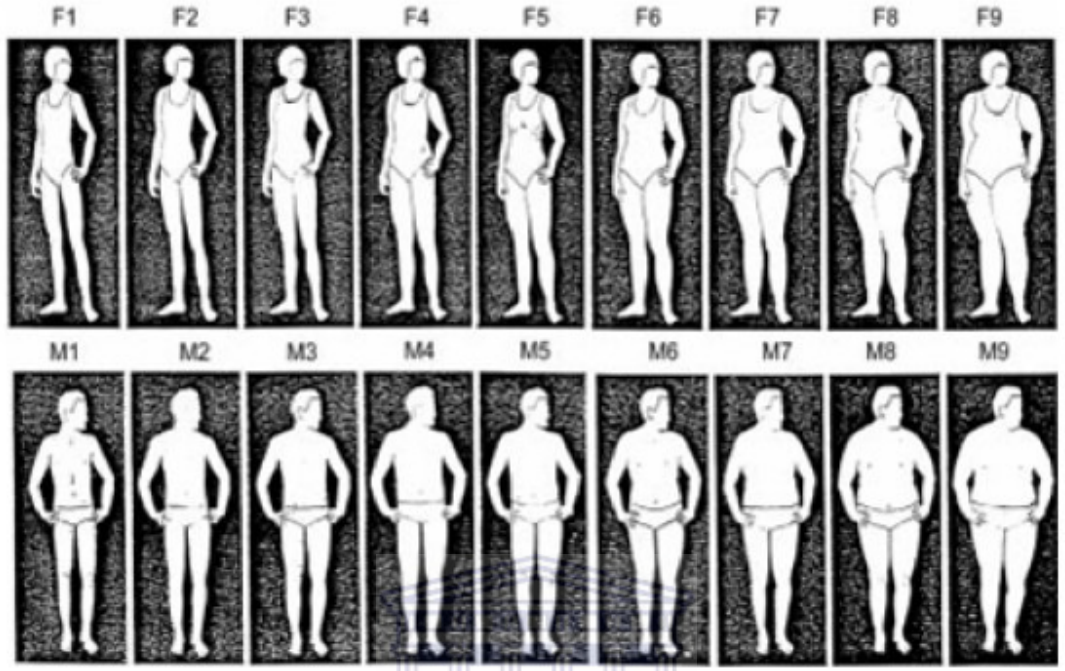
Witness……..

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Study Coordinator's Name: Ms Lungiswa Tsolekile
University of the Western Cape
Private Bag X17, Belville 7535
Telephone: (021)959-9379
Cell:
Fax: (021)959-2872
Email: ltsolekile@uwc.ac.za

Appendix 3



Options presented to select their silhouettes. F1/M1 – F3/M3 = underweight (BMI <= 19.99 kg/m^2); F4/M4 – F5/M5 = normal weight (20.00 kg/m^2 <= BMI <= 24.99 kg/m^2); F6/M6 – F7/M7 = overweight (25.00 kg/m^2 <= BMI <= 29.99 kg/m^2); F8/M8 – F9/M9 = obesity (BMI >= 30.00 kg/m^2).

Pimenta *et al.BMC Public Health* 2009 **9**:1 doi:10.1186/1471-2458-9-1

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Appendix 4:

Demographic information sheet

DATE	DAY	MONTH	YEAR	**Participant code**				
Participant name								
Body weight (kg)								
Height (m)								
BMI								
Gender (tick the appropriate box)				**Male**		**Female**		
Age								
				< 35 years				
				35-44 years				
				45-54 years				
				≥ 55 years				
Marital status (mark with a X)				**Married**	**Single**	**Divorced**	**Widowed**	
Have you ever been told by a health worker or doctor that you had or have any of the following?				Please tick the appropriate box				
				Diabetes	YES	NO		
				Hypertension	YES	NO		
				Heart attack/heart disease	YES	NO		
				Stroke	YES	NO		