

UNIVERSITY OF THE WESTERN CAPE

Exploring food security and resilience among youth aged 18–24 in

Fisantekraal, South Africa

A mini-thesis submitted in partial fulfilment of the requirements for the degree of Master in
Public Health Nutrition at the Department of Dietetics and Nutrition, University of the
Western Cape

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Coping strategies, food security, positive adaptation, resilience, self-efficacy, shocks.



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Declaration

I, Adilah Petersen, declare that the mini-thesis research titled '*Exploring food security and resilience among youth aged 18–24 in Fisantekraal, South Africa*', is my work, that it has not been submitted for any degree or examination in any other university, and that all the sources I used or quoted have been indicated and acknowledged by complete references.

Full name: Adilah Petersen Date: 02 October 2023 Signed: A Petersen



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بسم هلا الرحمن الرحيم

'In the name of God, the most Merciful, the most Compassionate.'

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Abstract

Background: In 2017, South Africa, despite its status as a prominent economic force and the most industrialised nation in Africa, had 52.2% of its population residing in poverty, making it the global leader in terms of income inequality. The threat of food insecurity is still substantial and has defied solutions, despite major efforts to break this impasse in the nation. The paradoxical dynamics of food scarcity amidst abundance only heighten this concern. Despite the fact that South Africa produces enough food to sustain its population and is able to import what it lacks, the country nevertheless has a significant number of food-insecure households, and numerous people are said to be either hungry or at risk of going hungry. In 2017, 24.7% of households experienced food insecurity, and as a result of the COVID-19 epidemic, this situation has worsened. This study investigated whether individuals who are more resilient are more food secure and have better access to food, and vice versa. The study aimed to explore food security and resilience and to assess the association between the two variables in the community of Fisantekraal, situated on the outskirts of the Cape Town Metropolitan area in the Western Cape, South Africa.

Study population and design: The study was conducted using secondary data analysis. It was based on selected data taken from three questionnaires initially completed by 248 members of the Fisantekraal community who volunteered for a previous study, titled ‘Nutrition capabilities of youth’, conducted in 2019. The data relevant to this study (drawn from a total of 220 individuals) were extracted, cleaned and refined. The three questionnaires included in this study collected information on the characteristics of the individual, on food security (including a 24-hour recall on dietary intake), and on the Nicholson McBride Resilience Questionnaire

(NMRQ) to assess resilience. A quantitative, descriptive, exploratory, cross-sectional study design was used.

Method: Data analysis was performed using SPSS and included descriptive and inferential analysis and statistics. Permission for the secondary data analyses was provided by the Humanities and Social Sciences Research Ethics Committee of the University of the Western Cape.

Results: The median age of participants in the study was 22 years, with 67.3% of them being female. The majority of the study sample were literate. Most participants were unemployed, with 38.6% of them reported having a household income of \leq R3000. The majority of the individuals reported having experienced little to no hunger, indicating that they were food secure, but only 38.4% of them had a dietary energy intake above 8400kJ. Based on the Lived Poverty Index, only one person claimed to be deprived. Most of the individuals reported having established resilience. A significant association was discovered between resilience and education, as well as between resilience and income. Furthermore, a significant correlation was observed between hunger score and dietary intake, but not with resilience.

Conclusion: Multiple research studies have shown that resilience serves as an indicator for measuring food security. In this context, higher resilience scores are commonly associated with a better food security status. In this study, individual resilience was not a predictor of household food insecurity, and neither was household food insecurity a predictor of individual resilience. However, this finding should be considered with caution, given the low prevalence of food insecurity reported by the study population

Chapter 1: Introduction

1.1 Background

While global hunger figures have stabilised from 2021 to 2022, numerous areas continue to grapple with worsening food shortages. Despite advancements in hunger reduction in Asia and Latin America, regions like Western Asia, the Caribbean, and all sub-regions of Africa have experienced a rise in hunger levels. Africa stands out as the most severely impacted, with one out of every five individuals confronting food insecurity, surpassing the global average by more than double (Thomson, 2023). Nationally, the data on food security indicators reveal that progress in alleviating food insecurity has been slow. According to Statistics South Africa (StatsSA), in 2018 approximately 20% of South African households lacked sufficient access to food. In 2012, the South African National Health and Nutrition Examination Survey (SANHANES) found that around 26% of South Africans experienced food insecurity and 28.3% were at risk of hunger, as reported by Shisana *et al.* (2013); Misselhorn and Hendriks (2017); Megbowon and Mushunje (2018); and Kroll *et al.* (2019). In the 2013 General Household Survey (GHS), Hendriks (2013) noted that 11.4% of the sampled households had encountered hunger in the 30 days prior to the survey, while roughly 21% of households reported insufficient access to food.

The literature review suggests a direct relationship between resilience and food security when one considers it from a macro perspective, for example, the assumption that one needs to be resilient to be food secure, and vice versa (Bene, 2020). However, the relationship between resilience and food security can be skewed or masked by several confounders that are either tangible, such as income and assets, or intangible, such as agency and self-sustainability. Food insecurity is a serious public health problem, especially in the developing world. The United

Nations report on agricultural development, food security, and nutrition, highlighted that in 2022, approximately 29.6% of the global population (2.4 billion people), experienced moderate to severe food insecurity. This represented an increase of 391 million individuals compared to 2019. Notably, a disproportionate number of women and individuals living in rural areas faced challenges in accessing safe, nutritious, and adequate food year-round. Addressing these issues requires a comprehensive, long-term approach that tackles underlying structural issues such as political and economic instability, unsustainable management of natural resources, and social marginalization (United Nations, 2023). This mini-thesis sought to understand the association between food security and resilience in a low-income, peri-urban town in South Africa. There are many potential health risks and consequences that are associated with and can arise from food insecurity, such as hunger, malnutrition, overall reduced health and reduced quality of life (Furness *et al.*, 2004).

The state of food security is dynamic, implying that an individual's present food security situation cannot ensure their future food security. Therefore, it is crucial to sustain a degree of resilience to uphold a particular level of food security, as highlighted by Mthethwa and Wale in 2021. Food is a fundamental requirement for daily survival and is widely acknowledged as a basic human right (Mazenda *et al.*, 2021). It is important, therefore, to understand that food security is multi-faceted as it is linked to an individual's rights, (their) health, the local environment and (their) resilience. Household resilience, in relation to food insecurity, is defined as the ability of a household to keep or maintain a level of overall well-being by withstanding various shocks and stresses and reorganising their livelihoods, while still undergoing change, in order to have the same functions and structure to continue with their daily lives (Ciani and Romani, 2014).

1.2 Problem statement and significance of study

The research question for this study was: what is the association between food security and resilience of young people aged 18–24 years in the Fisantekraal community and what other factors might have an impact on the food security and resilience of individuals and households? There is limited literature pertaining to youth, food security and resilience in South Africa. There also seems to be a gap in information on young adults in general.

\Studying the association between household food security and individual resilience holds significance as it shows the interconnectedness of human needs and adaptive capacities. Food security, ensuring all individuals have access to nutritious food, is foundational for well-being. Yet, in the face of various stressors resilience becomes crucial. Understanding how food security influences resilience and vice versa can inform policies and interventions aimed at communities' abilities to withstand and recover from disruptions. Such insights are pivotal to address vulnerabilities and foster sustainable development (Bene, 2020).

1.3 Aim and objectives

1.3.1 Aim:

The aim of this study was to determine if there is an association between food security and resilience among young people aged 18–24 years living in Fisantekraal, South Africa.

1.3.2 Objectives:

The objectives of this study were:

- To determine the household food security status of youth (18–24 years) living in Fisantekraal;
- To assess the resilience of youth (18–24 years) living in Fisantekraal
- To assess the correlation between food security, resilience, socio- economic and demographic variables.

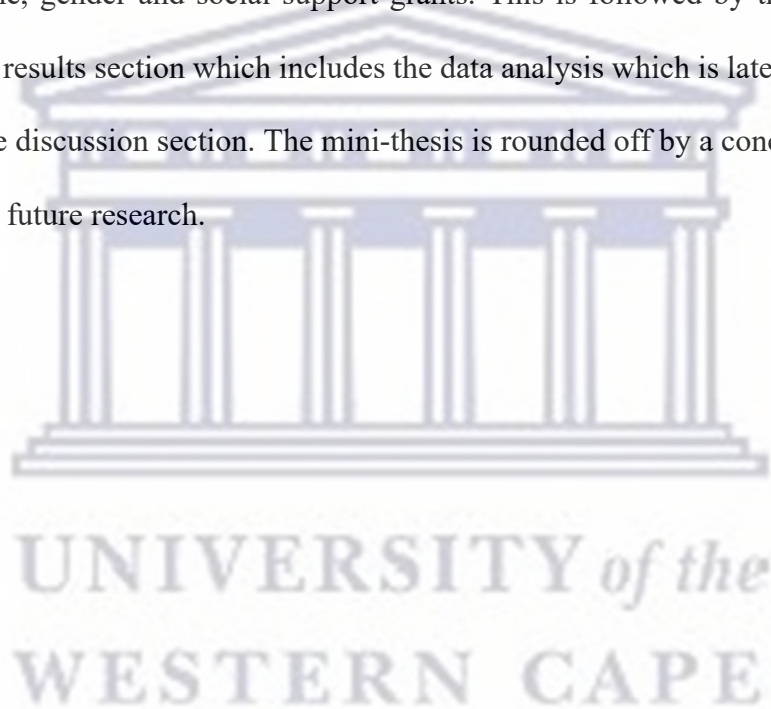
1.4 Hypothesis

Null hypothesis: There is no association between food security and resilience.

Alternative hypothesis: There is an association between food security and resilience.

1.5 The structure of the mini-thesis

The mini thesis will cover a literature review on food security, resilience and the factors associated with food security and resilience such as poverty, level of education, employment and household income, gender and social support grants. This is followed by the research methodology and the results section which includes the data analysis which is later discussed and represented in the discussion section. The mini-thesis is rounded off by a conclusion and recommendations for future research.



Chapter 2: Literature review

2.1 Introduction

This chapter presents relevant literature relating to food security, resilience, the relationship between food security and resilience, and the factors associated with food security and resilience in this study. The factors used in this study that are associated with food security and resilience include poverty, the Lived Poverty Index (LPI), education, employment, household income, sex and social support grants.

Currently, South Africa has an estimated population of 60.6 million, of which young people aged 15–24 make up approximately 9.7 million, i.e., 16% of the total population (Stats SA, 2022c). In 2022, the unemployment rate in the country stood at 33.9%, while the youth unemployment rate increased by two percentage points (or an increase of 92,000). This translates into a total of 4.8 million unemployed youth aged 15–34 years in the second quarter of 2022 (Stats SA, 2022e). In 2017, a total of 6.8 million South Africans were documented as experiencing hunger. While South Africa is recognised as a food-secure nation on a national scale, it was revealed that food security at the household level is less robust, with only some households having sufficient access to safe, nourishing, and wholesome food (Shisana *et al.*, 2013; Stats SA, 2019b).

Households led by individuals from the Black African and Coloured communities are recognised to experience limited access to sufficient food and resources in comparison to households headed by individuals from other racial groups in the nation (Stats SA, 2019b). According to Shisana *et al.* (2013), most individuals who experienced hunger were based in informal locations (32.4% urban and 37% rural), with a high prevalence of individuals being

at risk of hunger (36.1% urban and 32.8% rural) (Shisana *et al.*, 2013). Studies have identified at-risk groups, indicating that these vulnerable groups are more at risk of food insecurity if shocks occur. Various socio-economic factors that are known to affect food security

encompass, but are not restricted to, income, employment status, gender, household size, land and food access, and level of education (Mazenda *et al.*, 2021; Steyn *et al.*, 2022).

2.2 Food security

Food security is established when individuals have *'physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life'* (FAO, 2002; IFPRI, 2021). The components of food security have been recognised as *'adequate food availability, access to food, and appropriate food utilisation and stability'* (Deitchler, *et al.*, 2011; HLPE, 2020). The definition of food security has evolved to include and recognise agency and sustainability in the light of a 'human development' perspective (Clapp *et al.*, 2022). Agency is defined as *'the capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within food systems and their ability to engage in processes that shape food system policies and governance'* (HLPE, 2020). Sustainability refers to *'the long-term ability of food systems to provide food security and nutrition that does not compromise the economic, social and environmental bases that generate food security and nutrition for future generations'* (HLPE, 2020).

When the elements of food security (adequate food availability, access to food, and appropriate food utilisation and stability) are not met, hunger is experienced. *'Hunger is the uncomfortable or painful physical sensation caused by an insufficient intake or consumption of dietary energy'* (HLPE, 2020) or vulnerability resulting from insufficient food (Radimer *et al.*, 2012). According to the SANHANES, *'hunger is also referred to as food insecurity, and the absence of hunger is evidence of food security'* (Shisana *et al.*, 2013). *'Hunger'* ranges

from short-term hunger, which is the temporary physical distress, to persistent, potentially fatal problems due to a lack of food. Long-term or chronic hunger encompasses the socio-economic deprivation of food and other factors (Habicht *et al.*, 2004; Ballard *et al.*, 2013).

Experiencing food deprivation or hunger can impact an individual's physical and emotional well-being, as well as their ability to be productive and handle daily responsibilities. This, in turn, can make them more vulnerable to poverty (Zitron-Emanuel and Ganel, 2018; Siddiqui *et al.*, 2020). Therefore, it can be inferred that food deprivation and hunger have the potential to impact an individual's resilience. Chronic hunger refers to insufficient regular dietary energy intake. This is when an individual consumes less than the recommended dietary intake (WHO, 2021). Chronic hunger can lead to undernutrition, defined as deficiencies or imbalances in an individual's intake of energy and nutrients (WHO, 2021). Undernutrition forms part of malnutrition and consists of stunting, wasting, being underweight, or any insufficiencies related to vitamins and minerals.

The United States Department of Agriculture classifies food security into two main categories (ODPHP, 2014). The first category is 'low food security', which is characterised by diets of low quality, limited variety, or undesirability, although this category does not necessarily indicate a decrease in food consumption. The second category is 'very low food security', which is characterised by multiple signs of disrupted or irregular eating patterns and decreased food consumption. Food insecurity can be either a persistent or temporary condition and can be impacted by various elements, including income, employment, education, race/ethnicity, and disability (ODPHP, 2014). Additionally, there are other direct factors that can impact food insecurity, such as occupation, family size, household assets, home and livestock ownership (Zhou *et al.*, 2017).

The United Nations projected that, as a result of the impacts of the COVID-19 pandemic, approximately 130 million individuals were in danger of experiencing acute hunger by the

end of 2020 (World Food Programme, 2019). In 2020, approximately 820 million people worldwide (10.25%) regularly went to bed hungry, and 135 million of them (1.69%) suffered from acute hunger due to man-made conflicts (FAO *et al.*, 2020). In South Africa in 2020, it was noted that moderate food insecurity prevalence had risen to 23.6% and severe food insecurity prevalence had risen to 14.9% (Stats SA, 2022b). From 1994, the South African government included food security as a priority in its Reconstruction and Development

Programme (RDP). It did this by allocating funds to social initiatives, like school feeding programmes, social assistance such as grants and job creation, as well as land reform (Kirsten, 2015; Gildenhuis, 2017). Additionally, measures related to food security at the policy level included nutrition awareness and education (Gildenhuis, 2017). In 2019, it was reported that 17.3% of South Africans were affected by food insecurity, with 11.3% experiencing moderate food insecurity and 7% experiencing severe food insecurity (Stats SA, 2022b). The COVID-19 pandemic and associated lockdown measures contributed to an increase in food insecurity relative to the trends prior to 2019.

Children residing in households with food insecurity in Australia were observed to have higher school and extracurricular activity absences and displayed a greater likelihood of encountering emotional and behavioural problems (Ramsey *et al.*, 2011). It was reported that 80% of university students who were food insecure were negatively impacted by food insecurity and had difficulties due to poorer health conditions (Seivwright *et al.*, 2020). There is a need to work towards the prevention of food insecurity. Studies have shown that food (in)security can compromise individuals' resilience and ability to withstand and recover from future shocks. A study done in Tanzania by O'Brien *et al.* (2015) showed that food-insecure households were less likely to have the resources and support available to cope with disasters. Food insecurity is ultimately linked to vulnerability (FAO, 2008).

A person can be vulnerable to hunger at any given time, and it is important to have

interventions in place to address these vulnerabilities. Two main intervention options for food security were recommended by the United Nations Food and Agriculture Organization (FAO), as interventions to reduce the degree of exposure to food insecurity and interventions to increase the ability to cope with risk factors or threats to food security and reduce individuals' vulnerability, which can also be viewed as individual resilience to shocks and risks (FAO, 2008).

2.3 Resilience

The term 'resilience' has been applied in diverse settings to evaluate the capacity of social and economic systems to enhance their stability when confronted with unexpected shifts, disruptions and shocks (Folke, 2006; Barrett and Constanas, 2014; Martin and Sunley, 2014; Doran and Fingleton, 2016). Although a few conceptual studies were dedicated to studying how resilience can be applied to food systems, they mostly took a general approach to the subject (Pingali *et al.*, 2005; Tendall *et al.*, 2015; Toth *et al.*, 2016). Measuring resilience in household food systems through practical means is still a challenge.

The word resilience originates from the Latin word '*resilio*', meaning '*to jump back to*', referring to the phenomenon of '*return(ing) to a natural state*' (Klein *et al.*, 2003). Resilience has myriad definitions that are contextual or discipline-specific. According to Ungar (2019), human resilience is defined as an individual's ability to effectively manage the resources needed for a sustainable and positive life, regardless of their circumstances. (Ungar, 2019). This definition by Ungar (2019) was utilised for this study. Human resilience can be linked to agency as it is a factor in determining how an individual responds to environmental changes (Brown and Westaway, 2011). Agency, a sense of control and capacity to influence own thoughts and behaviour, shapes both variables' (resilience and food security) outcomes (Brown and Westaway, 2011).

According to psychological theory, resilience focuses on strengths and the ability to recover from misfortune rather than weaknesses and risks (Van Breda, 2018). It is the process of creating and exhibiting healthy behaviour in order to effectively deal with traumatic events (Fergus and Zimmerman, 2005), and the capacity to predict, absorb, and recover from calamities in a timely, effective, and sustainable way (FAO, 2015). People who are vulnerable to shocks and lack resilience are typically the most impoverished people on the food security spectrum (Lokosang *et al.*, 2016). A shock or stressor is defined as an occurrence that has the potential to disrupt the daily well-being of an individual, a household, or a community. These events can be of various types, including natural, health-related, social, economic, political, or environmental (Fergus and Zimmerman, 2005). Covariate shocks impact numerous households within specific geographic regions, such as epidemics or droughts, while idiosyncratic shocks affect individual households, like sudden unemployment (Pradhan and Mukherjee, 2017). Ansah *et al.* (2019) classify food insecurity as an idiosyncratic shock since each household experiences it uniquely, and its effects are not uniform across households. However, a household's ability to manage or monitor these shocks indicates its resilience (Ansah *et al.*, 2019).

Resilience has its roots in positivism. In philosophy studies, positivism assumes that knowledge is gained through observation and is trustworthy, depends on quantifiable observations and is purely based on facts (Nickerson, 2022). According to Ungar (2019), resilience should be conceptualised as either a process within an individual system or as a network of interconnected systems working together, which interact with one another in a way that improves the function of the network of systems by benefiting them individually or collectively, with as few consequences as possible (Ungar, 2019). Frankenberger *et al.* (2012) identified four different pathways after a shock, which suggests that resilience does not only require a comparison with the previous situation, but should also consider a possible trajectory pathway, i.e., an upward trajectory ('bounce back better'), a relatively flat trajectory ('bounce

back'), a downward trajectory ('recover, but worse than before') and a catastrophic decline ('collapse').

Several tools and frameworks have been developed to evaluate resilience, and research has examined food systems or their individual components from a resilience perspective. Each of these tools and frameworks varies in terms of purpose, scale, focus and method of analysis, making them not directly comparable (Sturgess, 2016). From a livelihood perspective, the coping strategies employed by households to deal with food insecurity are seen as a form of resilience, albeit a negative resilience indicator (Viatla *et al.*, 2012). However, some literature

suggests that food security is the outcome measure of resilience, with the latter (resilience) regarded as a process indicator (Sturgess 2016). Browne *et al.* (2014) created a Resilience Index by looking at asset ownership and suggested that it could be used to assess and monitor household food security. In contrast, Daie Ferede and Wolde-Tsadik (2015) used income and food access as a substitute indicator of resilience. The FAO developed a Resilience Capacity Index which they applied in several West and East African countries to monitor resilience within an environmental context. This Resilience Capacity Index used modelling from a matrix of 10 measures (including variables such as distance to markets, distance to pharmacies, livestock units, transport, participation and dependency indexes, as well as household head education level) (FAO, 2016).

The Bene *et al.* (2012) framework suggests that resilience arises from three distinct capacities, namely absorptive capacity, adaptive capacity and transformative capacity. Each of these capacities results in a unique outcome which is the ability to endure difficulties, make gradual adjustments or initiate transformative changes. The framework also suggests that these different outcomes can be associated with the severity of shocks. When the intensity of the shock is lower, there is a higher likelihood of it being absorbed without resulting in consequences. The greater the intensity of the shock, the more likely the individual or

community will be to move from absorptive capacity to adaptive capacity, and in extreme cases to transformative capacity (Bene *et al.*, 2012). It is worth noting that what would be considered an adaptation by one individual, might be seen as a coping strategy by another individual. Moving from absorptive to adaptive to transformative resilience incurs increasing costs and risks. In essence, resilience would require interventions that strengthen absorptive capacity, adaptive capacity and transformative capacity (Bene *et al.*, 2012).

From an individual, internal psychological resilience perspective, available tools include the Nicholson McBride Resilience Questionnaire (NMRQ) as well as an abbreviated version of the NMRQ (Clarke and Nicholson, 2010; Pilafas *et al.*, 2020), the Resilience Scale, the Connor- Davidson Resilience Scale, the Baruth Protective Factors Inventory, the Resilience

in Midlife Scale, the Resilience Scale for Adults and the Brief Resilient Coping Scale (Smith-Osborne and Bolton, 2013). The NMRQ was used to measure resilience in this study. Two other studies used the NMRQ and explored youth resilience in South Africa. Bhosale's (2022) study on young adults, aged 18–28, focused on the impact of adverse childhood experiences on resilience and psychological well-being. Singh's (2020) study targeted the 20–25 age group and aimed to understand the relationship between personality and resilience in young adults. Notably these studies contributed valuable insights as there is limited prior research on South African youth resilience using the NMRQ.

Most of these individual psychological resilience measures have been used for research purposes and were developed with monitoring-treatment interventions in mind, especially in a social work context (Smith-Osborne and Bolton, 2013). The similarity in the individual psychological resilience scales is that they all consist of a certain number of questions which use Likert scales for the answers. The major limitation presented by these scales is that they focus on the internal psychological traits and conditions associated with resilient individuals, while the other frameworks and tools presented focus on the interactive processes that involve

challenging environments, socio-economic factors and factors associated with food security (Smith-Osborne and Bolton, 2013; Sturgess, 2016). As individual psychological resilience is rooted in positivism, it should also be evaluated through observation and factual information (Nickerson, 2022).

Ansah *et al.* (2019) state that when resilience is measured from a food systems angle, the topic is treated from a general perspective. Owing to the complex nature of resilience, different studies tend to propose different theories and methods, which usually generate different results. They have questioned whether they are assessing the same concept using different approaches, or whether they are actually measuring different aspects but labelling them as resilience. Consequently, it becomes crucial to compile a comprehensive synthesis of studies that examine resilience through the lens of food security. Such a synthesis can prove to be invaluable in directing research efforts by incorporating established effective methodologies, especially since resilience is an evolving term (Ansah *et al.*, 2019).

Ideally, household resilience has seven key pillars or features, i.e., income, food access, assets, social safety nets and access to public services, with the two additional dimensions of stability and adaptive capacity (D'Errico *et al.*, 2018). Collectively, this forms a resilience framework, but it pays little attention to how well the household can adjust and learn from (their) system(s) in response to shifting circumstances. The limitation here is that resilience cannot be examined in isolation, so resilience must be understood as an entangled variable with food security (Ansah *et al.*, 2019). Individuals employ diverse tactics to handle shocks and unexpected disruptions (Pradham and Mukherjee, 2017). These strategies can be shaped either by assets or resources (Fergus and Zimmerman, 2005), which encompass elements like social capital, such as networks, norms and social trust (Bernier and Meinzen-Dick, 2014). As one of the main views about resilience is that it emphasises '*the need for persistence*', one can find a connection between resilience and sustainability (Pisano, 2012; Hart *et al.*, 2022).

2.4 The relationship between resilience and food security

In operationalising resilience from a food security perspective, only a few studies have emerged, with the latter using various methods to quantify resilience and its attributes. The study by Alinovi *et al.* (2008) was among the first to establish a methodology for assessing resilience in the context of food security. The authors created an index of household resilience to food insecurity based on four main factors: income and access to food, assets, access to services, and social safety nets. Additionally, stability and adaptive strategies were included as important dimensions that affect households' ability to respond to and adapt to shocks. They made use of the different indicators/factors as covariates to estimate resilience. The Palestinian Public Perception survey was utilised to construct the index (Alinovi *et al.*, 2008). Alinovi *et al.* (2008) stated that due to the complexity and multidimensional nature of food security and resilience, when resilience is applied to household food security it appears promising, as resilience focuses on gauging a household's ability to withstand and recover from shocks. It was noted that further work was needed to use the Resilience Index, and key determinants needed to be identified to estimate resilience (Alinovi *et al.*, 2008). Resilience thinking can contribute substantially to food security and the preservation of sustainable food systems (Naylor, 2009; Prosperi *et al.*, 2014). To understand how individuals build resilience to short- and long-term shocks or adversity, it is important to examine how individuals deal with and bounce back from the social, economic, and environmental pressures that result in hunger, malnutrition, and food insecurity (Hendriks, 2015).

Resilience serves as a metric for assessing food security (Ansah *et al.*, 2019). In the context of food security, Oshaug (1985) categorized households into three types based on their response to shocks: 1) 'enduring households' maintain continuous food security, 2) 'resilient households' experience shocks but recover rapidly, and 3) 'fragile households' become increasingly food insecure when faced with shocks. The relationship between food security, nutrition, and resilience is closely intertwined, as nutrition plays a dual role as both an input

and an outcome of enhanced resilience (FAO, 2014). To bolster resilience, it is essential to mitigate food insecurity and malnutrition because well-nourished individuals are healthier, more productive, physically better equipped to combat diseases, and are better able to withstand and recover swiftly from setbacks or external shocks (Bene *et al.*, 2016).

According to Lokosang *et al.* (2016), it has become evident over the past three decades that interventions featuring the following have a greater impact on transformation: a focus on resilience in relation to food security, and positive adaptation and coping skills. It is crucial to overcome food insecurity with resilience; otherwise, this recurrent issue will be exacerbated (Lokosang *et al.*, 2016). Food systems have specific limits in terms of their economic, ecological, and social aspects. When these limits are exceeded, it leads to alterations in the characteristics and functions of the food system, which in turn affect its sustainability and the extent of food security. When this happens, it is described as a dissipative change in the system (Garcia, 1984).

Embracing a strategy focused on enhancing resilience can assist in lessening the negative impacts of crises or unexpected shocks, while also reducing both human distress and financial losses (Toe, 2018). In the context of food security, adopting a resilience-based approach recognises that resilience measures are not fixed but vary among individuals and communities due to their unique circumstances. Coping strategies employed during periods of food insecurity serve as indicators of resilience, reflecting the dynamic interplay between food security and adaptability. Resilience in this context is influenced by factors like socio-economic conditions and cultural contexts, emphasising the need for comprehensive strategies to enhance food security and build resilient communities. By exploring the relationship between resilience and food security, it becomes feasible to enhance comprehension and preparation for initiatives aimed at tackling food insecurity and associated challenges at the individual, household, and community levels.

2.5 Food security and resilience in South Africa

Household food insecurity in South Africa is closely linked to household socio-economic status, which relates to income, employment status and food expenditure (Chakona and Shackleton, 2019). The level of income plays a critical role in deciding whether a household can satisfy its food needs and maintain food security. A significant proportion of the population requires assistance, such as social protection, to secure a sufficient income to support themselves and their dependants (Chakona and Shackleton, 2019).

Increasing food costs, especially in the case of essential food items, pose significant and harmful challenges for individuals living in extreme poverty (Chakona and Shackleton, 2019). South Africa's attempts to assist and improve the lives of those below the various poverty lines include social grants which were introduced to enhance or support existing income (Chakona and Shackleton, 2019). These grants include the child support grant (CSG), older person's grant, care dependency grant, grant in aid, war veterans grant, foster child grant and disability grant (South African Government, 2022).

Nenguda and Scholes (2022) surveyed individuals in Tembisa, revealing common coping mechanisms for food security. Borrowing money from friends and family was prevalent, as was taking up irregular odd jobs for immediate income without long-term financial planning. Consequently, many opted for lower-quality diets, experiencing hunger in severe cases, risking malnutrition and adverse health effects (Nenguda and Scholes, 2022). Dlamini *et al.*, (2023) also reported that households tend to resort to various strategies for dealing with food insecurity, including consuming cheaper food, borrowing resources, using credit, relying on social networks, and, in extreme cases, begging for food.

The Global Health Index report ranked South Africa 60th out of 107 countries, with a score of 13.5, meaning that most South Africans experience moderate hunger. One can improve

food security and resilience by understanding and addressing the factors that contribute to food security and resilience (Hart *et al.*, 2022). Various socio-economic factors that are known to affect food security encompass, but are not restricted to, income, employment status, gender, household size, land and food access, and level of education (Mazenda *et al.*, 2021; Steyn *et al.*, 2022).

2.5.1 Poverty

Poverty is the condition of not having the customary or socially accepted amount of money or material belongings. Poverty is considered to be present when individuals do not have the resources to meet their fundamental necessities. In this situation, identifying impoverished individuals initially involves defining what qualifies as essential needs. These may be defined as narrowly as ‘those necessary for survival’ or as broadly as ‘those reflecting the prevailing standard of living in the community’.

Food insecurity and malnutrition are often intertwined with poverty and inequality. The prevalence of food insecurity declines from 35.1% for low-income households to 4.9% for those households that are 1.85 times above the poverty line. Food insecurity only becomes negligible once the household income exceeds five times the poverty threshold (Bartfield and Dunifon, 2006). There is a reciprocal relationship between malnutrition and poverty. Malnutrition leads to circumstances of poverty as it diminishes the economic capacity of a population, and poverty, in turn, exacerbates malnutrition by heightening the likelihood of food insecurity (Siddiqui *et al.*, 2020). This vicious cycle will persist unless one or the other is controlled.

An objective way to assess poverty is by using poverty lines, which are based on the cost-of-basic-needs approach linking social welfare to essential goods and services. These lines encompass both food and non-food household expenses (Stats SA, 2021) and are vital for reporting on poverty trends (Stats SA, 2021). There are three distinct national poverty lines: *the extreme poverty line, the lower-bound poverty line, and the upper-bound poverty line.*

Extreme poverty, often referred to as the food poverty line, is set at R663.00 per person per month, representing the minimum amount required for daily sustenance. The lower-bound poverty line stands at R945.00 per person per month, covering both food and non-food items, including the extreme poverty line. The upper-bound poverty line is R1417.00 per person per month (PMBEJD, 2022).

According to the Household Affordability Index for 2022, the cost of providing a basic nutritious diet for a family of four per month is R2,654.46, which translates to R663.62 per person per month. As per the data collected through the Household Affordability Index, core foods necessary for a healthy diet make up 53% of the total cost of this 'household food basket'. This means that staple foods, which are the most nutritious, cost around R351.72 per person per month. This remains a significant expense, especially when considering other household costs. Additionally, South Africa witnessed a substantial increase in inflation in 2022, with the consumer inflation rate reaching 7.5%, primarily driven by rising transport and food prices (Stats SA, 2022a).

Poverty continues to be the primary driver of food insecurity in South Africa. This underscores the importance of implementing interventions to address poverty and unemployment effectively (Misselhorn and Hendriks, 2017). The Lived Poverty Index (LPI) provides a broader conceptualisation of poverty and complements other statistics (Mattes, 2020). The LPI is a practical tool that is "based on a series of survey questions about how frequently people live without the basic necessities during the course of the year" (Mattes, 2020). The LPI is based on the lived experience of people as *'people are the best judges of their own interests and individuals are in the best position to elaborate on their quality of life, although it might not come with a great deal of precision'* (Mattes, 2020).

The LPI poses six questions to individuals, and these questions can serve as a continuous scale, enabling the researcher to calculate a mean score for each participant and

interpret their *'lived poverty'*. The LPI encompasses elements related to fundamental necessities, such as ensuring access to food, availability of water, home safety, healthcare, income, fuel for household use, and electricity (Meyer and Keyser, 2016). This tool is used to evaluate the poverty levels of individuals and communities.

2.5.2 Level of education attained

Lower education levels, household composition and unemployment are also associated with higher food insecurity levels in the UK and the US (Seivwright *et al.*, 2020). When using wealth and income assessment measures, there is an inverse correlation between educational achievement and poverty. This means that households with less-educated household heads are more likely to experience poverty (Stats SA, 2022d). Households in which individuals have attained higher levels of education are less likely to face food insecurity and experience stronger and more positive outcomes from food security. This is because they have stronger human capital and thus better employment opportunities, which result in their having higher resilience to shocks (Mthethwa and Wale, 2021). Improved access to high-quality basic education empowers household members to attain stable employment, reducing their susceptibility to food insecurity (Mthethwa and Wale, 2021).

2.5.3 Employment and household income

Low income is the most robust and consistent predictor of food insecurity (Seivwright *et al.*, 2020). This does not mean that a higher income is a proxy for food security – income level does not indicate the overall economic conditions of a household, as household food security has many deciding factors (Seivwright *et al.*, 2020).

Unemployment can have an adverse impact on a household's food security status (Stats SA, 2022b). Current low economic growth and rising unemployment are impeding South Africa's ability to increase its food security levels (Stats SA, 2022b). In 2020, the proportion of households that were made up of unemployed people was 34.1% (Stats SA, 2022e). High

unemployment rates within lower-income populations pose challenges in fulfilling daily nutritional requirements for households. Moreover, children with unemployed parents encounter increased levels of food insecurity (Ling *et al.*, 2022). Households with a broader and more extensive range of income sources are less vulnerable to food insecurity and the adverse impacts of shocks or unexpected events (Mthethwa and Wale, 2021). Stats SA (2022b) released a statement to the effect that rising household income can effectively reduce the prevalence of food insecurity. In a study conducted by Smith and Frankenberger (2018), it was discovered that Bangladeshi households with stronger resilience levels had more months with sufficient food supplies or fewer instances of self-reported hunger. Similarly, when Alfani *et al.* (2015) employed weight-for-age as a metric for child malnutrition, they observed that households displaying resilience tend to have lower occurrences of child malnutrition compared to non-resilient and consistently impoverished households. Furthermore, the authors identified resilient households as those with smaller family sizes, higher educational levels, and lower dependency ratios, and were in possession of higher-quality items.

Various econometric techniques have been utilised to establish a link, potentially causal, between resilience and household food security. While many of these methods have achieved their intended objectives, most of them do not provide causal explanations for the resulting parameters because they do not account for endogeneity. Endogeneity can stem from two potential sources. The first arises from potential interconnections between the different aspects of resilience. The three aspects of resilience are absorptive capacity, which is required for addressing mild shocks, adaptive capacity, which is necessary for dealing with moderate shocks, and transformative capacity, which becomes essential when the shock's intensity surpasses the system's coping ability. These three capacities are interrelated, reinforcing each other, as described by Bene *et al.* (2012). The second source of endogeneity arises from the possibility of a reverse causal relationship between resilience capacity, shocks, and food

security. The *'state of being food insecure is both a cause and consequence of cycles of vulnerability'* (Misselhorn and Hendriks, 2017).

Households possessing greater resilience capacity are more inclined to maintain an improved and consistent food security situation compared to households with lower resilience capacity. It is plausible that households with better food security are more adept at implementing strategies and mechanisms that enhance their ability to withstand food insecurity shocks. Furthermore, households may undertake actions that potentially subject them to shocks. Consequently, not all shocks may originate from external sources; some may be linked to the household's own choices and actions.

2.5.4 Gender

Men and women encounter distinct vulnerabilities in life. This results from a blend of biological, economic, and cultural factors, which includes socially defined roles and relationships between men and women. Additionally, they employ different strategies for mitigating and dealing with these vulnerabilities and risks (Rogers *et al.*, 2010). Women are more susceptible to the problems of malnutrition and food insecurity, which are particularly prevalent among young women of reproductive age and women in rural areas who are victims of gender discrimination and marginalisation (Levay *et al.*, 2013). In rural areas, households led by women are among the most at-risk, facing greater challenges when it comes to rising food prices. These households also tend to benefit less as producers from price increases. Furthermore, as consumers, female-headed households typically allocate a larger proportion of their income to food expenses compared to households led by men, making them more vulnerable to the impact of higher prices (Gustafson, 2013). Olowu (2013) observes a growing number of female household heads who are striving to sustain their livelihoods and ensure food security for their families. However, they often lack access to credit, technology, or extension services.

Men and women exhibit distinct resilience capacities in dealing with shocks. There is a commonly held belief that women may have a harder time coping with and recovering from crises compared to men, mainly because they face greater challenges in accessing resources due to gender-based vulnerabilities (Kumar and Quisumbing, 2014). Gender plays a significant role in shaping an individual's productive activities, the resources required in different circumstances, and the control of financial resources and income-generating activities (Kiewisch, 2015). Households headed by women are particularly vulnerable to the various challenges associated with food insecurity, and this vulnerability is even more pronounced among younger female heads of households. These inequalities are worsened by ongoing gender-based disparities, which remain a substantial concern in South Africa (Mthethwa and Wale, 2021; Stats SA, 2022b). In 2020, it was documented that nearly half of the households led by women did not have any employed individuals, consequently having an adverse impact on the food security status of these households (Stats SA, 2022b). Furthermore, more female-headed households reported receiving grants to sustain themselves compared to male-headed households (Stats SA, 2022b).

According to Visser and Wangu (2021), the involvement of women is vital for maintaining food systems, ensuring food security and enhancing resilience. They propose that food security solutions should revolve around women, utilising their resilience, expertise and traditional practices.

2.5.5 Social support grants

The South African government provides social protection in the form of social grants to citizens who need financial assistance (Western Cape Government, 2022). The child support grant (CSG) is one of Africa's largest unconditional cash transfers, with over 12 million beneficiaries (Luthuli *et al.*, 2022). When introduced, the main aim of the CSG was to

alleviate child poverty and improve development, such as increasing attendance at school by children living in poverty (Luthuli *et al.*, 2022). The grant is given to parents or guardians of low-income families and supports a child from birth until the age of 18 (Western Cape Government, 2022). To qualify for the grant, the child's guardian or primary caregiver needs to earn less than R52,800 per year (R4,400 per month) if single and less than R105,600 per year (R8,800 per month) if married. The CSG amount changes every year, but currently it is R480 per month per child (Western Cape Government, 2022).

According to South Africa's Department of Social Development (2004), households that receive social grants are less likely to experience hunger. This also makes children living in poor households less vulnerable and helps to reduce poverty (Khosa and Kaseke, 2017). This is only true if the parent or guardian does not misuse the money given under the CSG and uses it in the child's best interests (Jacobs, 2008). The persistence of child poverty is strongly linked to reduced educational opportunities, lower academic achievements, malnutrition, and a poorer quality of life (Department of Social Development, 2004). This may result in a lower level of resilience, as individuals may not have the knowledge and capacity to cope with external factors that may inhibit their future food security.

Households that rely on social grants have a predisposition towards severe food insecurity and are more likely to have lower living standards, making them less food secure. The amount disbursed under the grant is not enough to sustain an individual throughout the month, if compared to the Household Affordability Index. However, grants act as a social safety net and give households access to funds that they did not have before (Nenguda and Scholes, 2022).

2.6 Conclusion

Food insecurity remains a challenge in South Africa and globally. Public health interventions to build resilience may go some way towards alleviating food insecurity. Browne *et al.* (2014) developed a Resilience Index rooted in asset ownership and proposed it as a tool for assessing and monitoring household food security. Daie Ferede and Wolde-Tsadik (2015), in turn, devised an income and food access indicator as a substitute for resilience, using factor analysis. Upton *et al.* (2016) first addressed the inadequacy of current food security measures by including all the different facets of food security, as laid out in the 1996 FAO definition. The framework introduced by Bene *et al.* (2012) serves as a simple and valuable foundation for initiating discussions on resilience from a food security perspective.

In this study, various factors were analysed to detect the possible association between individual resilience and food security. The existing literature suggests a link between food security, resilience and additional variables like education, employment, income and gender. However, the association is not always explicit, and no South African studies have been identified that cover this topic.

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Chapter 3: Research methodology

3.1 Introduction

This chapter introduces and presents the primary study and the study design that was used for the secondary (current) study. The study sample, the setting and the population is also presented within this chapter. The chapter also includes the exclusion and inclusion criteria and outlines the data-collection methods and tools, the different types of data collected, the ethical considerations and the study limitations.

The current research is a follow-up investigation conducted as a subset of the 'Nutrition Capabilities of Youth' study carried out in 2019 in Fisantekraal. In the original study, quantitative data were collected through a cross-sectional approach by trained fieldworkers who conducted door-to-door surveys. Each household was asked to provide data from one individual (aged 18–24 years) present at the time of data collection. Fieldworkers utilised a standardised digital survey instrument specifically designed for the study.

The primary study aimed to assess the food and nutrition status of youth who were not engaged in employment, education, or training (NEETs). Additionally, it served as a case study on NEETs, focusing on evaluating the coping mechanisms and strategies young people used to secure their food needs. The primary study employed a mixed-methods approach with a sequential explanatory design, consisting of three distinct phases, as depicted in Figure 3.1. Phase 1 concentrated on the food and nutrition security situation, Phase 2 delved into nutritional capabilities, and Phase 3 identified potential policy opportunities.

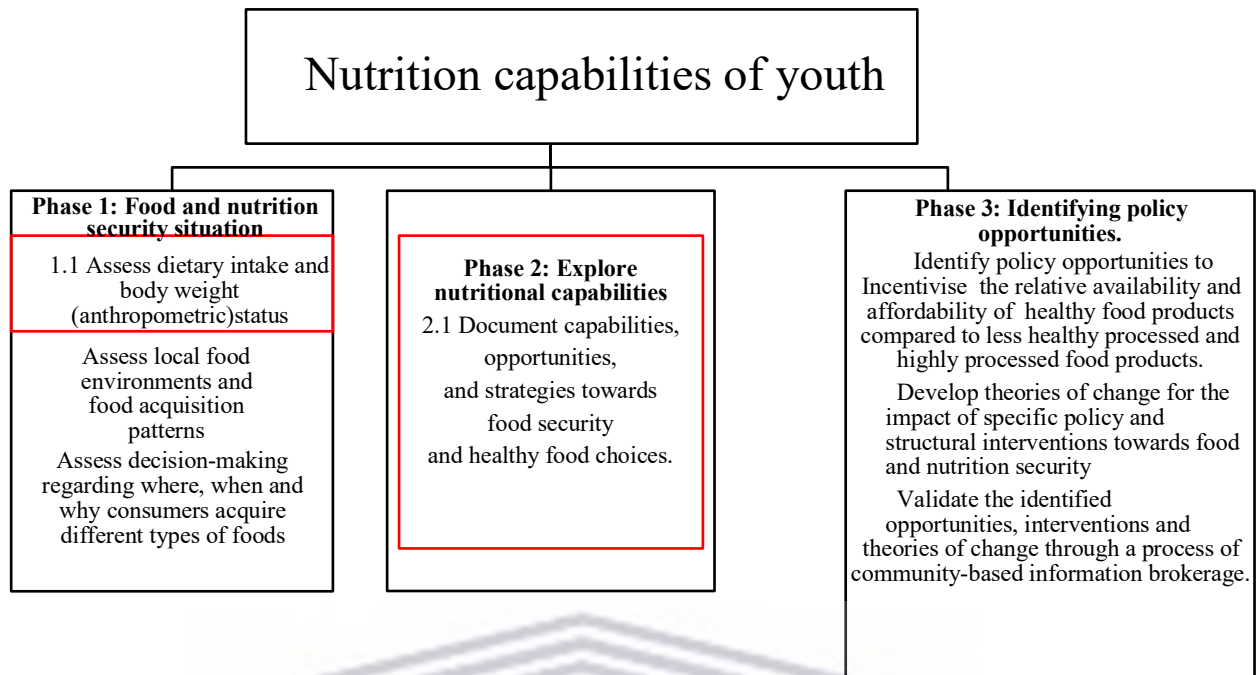


Figure 3.1: Framework of the primary study

Note: Data used to meet the objectives of the current study were collected in response to objective 1.1 from Phase 1 and objective 2.1 from Phase 2 of the primary study (see red demarcated areas in the above figure).

3.2 Study design

This study used secondary data in a quantitative, exploratory, correlational design. Secondary data refers to information that has been previously gathered for a different purpose (Allen, 2017). The use of secondary data allows for further exploration of what is already known and what remains to be discovered about a subject through an analysis of existing data from a fresh perspective. Secondary data are often underutilised, despite the abundance of available data (Johnston, 2014). The data utilised to achieve the objectives of the current study were gathered in accordance with objectives 1.1 and 2.1 of the main study (see Figure 3.1).

Qualitative research design involves the creation of concepts to comprehend social phenomena in real-life settings, rather than relying on experiments. This approach highlights the significance of meanings, experiences, and individual perspectives or preferences (Al-

Busaidi, 2008). In contrast, quantitative studies summarise numerical data and make generalisations across groups or explain specific phenomena (Babbie, 2010). A correlational research design entails measuring two or more relevant variables and evaluating the statistical relationships between, across, or among those variables (Stangor and Walinga, 2014; Chiang *et al.*, 2016).

The anonymised data set analysed for this study was generated in the second semester of 2019 during a study of ‘Nutritional capabilities of youth in Fisantekraal’ (project ethics registration number BMREC 19/3/4).

3.3 Study setting

The primary study was conducted in Fisantekraal, a peri-urban town situated approximately 8km east of Durbanville on the outskirts of Cape Town, which has a population of about 30,000 (LIV, 2020). As per the Census 2011 data from Stats SA, Fisantekraal was estimated to have a total population of 12 372 resulting in a high population density of 18,928 people per square kilometre. The youth population aged 15 to 24 was estimated at 2 596 (21%). This densely populated community comprised 42.6% of residents living in formal dwellings, 71.3% having access to flushing toilets, 68.5% having access to electricity for lighting, and 52% having piped water inside their houses. According to the same Census data, the majority of the population consisted of Black African and Coloured ethnic groups, making up 51.5% and 46.9% of the population, respectively. Only 16.1% of individuals in the community were reported to have completed matric (secondary education), and a mere 1.1% had pursued higher education beyond secondary school (SDI&GIS, 2013).

Despite 73% of the labour force (aged 15–64) being employed, 73% of households had a household income below R3,200 (SDI&GIS, 2013), indicating that most households were living below the poverty line. Additionally, the community had only one primary health care clinic (SDI&GIS, 2013).

The primary study consisted of 248 young adults between the ages of 18 and 25 residing in Fisantekraal, and were recruited through cluster sampling where those who were willing to participate were interviewed through a door-to-door survey. In this current study, after data sorting and cleaning, a total of 220 participants from the original group had complete data for all variables required for analysis, and they were consequently included in the secondary data analysis.

3.4 Inclusion and exclusion criteria for primary study and secondary study

Individuals were included in the secondary study if they were aged 18–24 years. Individuals were included if they met the primary study's inclusion criteria, excluding the age category, which was 18–25 years of age. The age category was altered for this (secondary) study as there was not enough data available to analyse the resilience and food security of those aged 25. Individuals were included in the primary and the secondary studies if they were previously beneficiaries of the CSG, meaning that their parents received the CSG. All genders and races within the community were included. Immigrants were excluded from the primary and secondary studies as the focus was on South Africans who had previously received the CSG. In addition, individuals had to be living in Fisantekraal, Cape Town.

3.5 Data collection

All data was collected and obtained through a questionnaire which was administered by trained and skilled fieldworkers. Questionnaires covered questions on socio-economic data, food security assessment, anthropometric nutritional assessment, resilience assessment, and the Lived Poverty Index. Data analysis, ethics and limitations of the study are included in the following subsections.

3.5.1 Socio-economic data

The socio-economic questionnaire included a household roster of individuals who typically reside in the household, as well as their age, sex and highest level of education attained. Other

socio-economic questions covered birth history, household characteristics, water, sanitation and hygiene, access to health services, household income, employment status, marital status, pregnancy and breastfeeding (for female respondents), and social grants.

Education information was collected and later profiled into literate and illiterate, according to the South African General Household Survey 2019 definitions (Stats SA, 2019a). According to the General Household Survey, functional illiteracy is attributed to individuals who have had no schooling or who have not completed Grade 7 yet (Stats SA, 2019a).

3.5.2 Food security assessment

The food security assessment comprised three aspects, namely participants' perceptions of food adequacy against the Household Hunger Scale (HHS); participants' self-reported dietary adequacy based on their total dietary energy intake which was obtained via a 24-hour recall method; and participants' nutritional status based on the body mass index (BMI) calculated from an anthropometric assessment of the weight and height of each individual.

- **Household Hunger Scale**

The Household Hunger Scale (HHS) is a straightforward tool employed to gauge household hunger, particularly in regions experiencing food insecurity (Ballard *et al.*, 2011). What sets it apart from other metrics is its specific design for cross-cultural applicability (Ballard *et al.*, 2011; Leroy *et al.*, 2015). This feature enables users to pinpoint areas and interventions in need of resources and to subsequently develop, implement, monitor, and evaluate policy and programme interventions (Ballard *et al.*, 2011). The HHS comprises three questions, each followed by a frequency-related query (refer to Table 3.1).

Table 3.1 The Household Hunger Scale Questionnaire

	Questions	Answers	Skips
HH1	In the past month, was there ever no food to eat of any kind in your house because of the lack of resources to get food?	Yes = 1 No = 2	If no, skip to HH2
HH1a	How often did this happen in the past month?	Rarely (1–2 times) = 1 Sometimes (3–10 times) = 2 Often (>10 times) = 3	
HH2	In the past month, did you or any household member go to sleep at night hungry because there was not enough food?	Yes = 1 No = 2	If no, skip to HH3
HH2a	How often did this happen in the past month?	Rarely (1–2 times) = 1 Sometimes (3–10 times) = 2 Often (>10 times) = 3	
HH3	In the past month, did you or any household member go a whole day and night without eating anything at all because there was not enough food?	Yes = 1 No = 2	If no, skip next question
HH3a	How often did this happen in the past month?	Rarely (1–2 times) = 1 Sometimes (3–10 times) = 2 Often (>10 times) = 3	

Source: Ballard et al. (2011, p. 6)

The answers to the frequency questions were recorded as ‘rarely’ (= 0), ‘sometimes’ (= 1) or ‘often’ (= 2). These were then recoded, with both ‘rarely’ and ‘sometimes’ recoded as 0, and ‘often’ recoded as 1. Subsequently, the scores for the three questions were combined to determine the household’s food security status (see Table 3.2).

Table 3.2: Food insecurity categorisation

Household Hunger Score	Household Hunger Categories
0–1	Little to no hunger in the household
2–3	Moderate hunger in the household
4–9	Severe hunger in the household

Source: Ballard et al. (2011)

A 24-hour dietary recall was carried out to evaluate the dietary intake of individuals in the 24 hours prior to their interview. This is a retrospective assessment method used to estimate the average variety, type and quality of all food and beverages consumed by an individual. This assists in calculating individual’s macro- and micronutrient intake to determine whether or

not they are meeting their recommended dietary intake. Dietary intake was included as a part of the study to analyse whether or not diet played a role in the food security and resilience of the individuals, as food insecurity has been positively associated with poor dietary intake, particularly households with low incomes (Odunitan-Wayas *et al.*, 2021).

On average, 8400–10,500 kilojoules (kJ) (2000–2500 kilocalories) should be consumed by an individual each day, which will vary according to the individual’s age, gender, height, weight, BMI and physical activity levels (Osilla *et al.*, 2022). It was then decided to categorise the dietary intake accordingly, in order to understand whether or not individuals were meeting half or almost all of their dietary needs based on their daily kilojoule intake.

The dietary intake was categorised into three groups based on total energy intake (See Table 3.3):

Table 3.3: Dietary intake classification by energy (kJ) consumption

0–4200 kilojoules	Less than half of daily kilojoule requirements consumed
4201–8400 kilojoules	Half or more than half of daily kilojoule requirements consumed
8401+ kilojoules	Adequate kilojoule requirements consumed

3.5.3 Anthropometric nutritional status

Anthropometric data were collected, which included weight (kilograms) and height (meters), to calculate participants’ BMI. Weight was measured using a calibrated scale (Seca 813, Hamburg, Germany) and height was measured using a mobile stadiometer (Seca 213, Hamburg, Germany). Two measurements of weight and height were taken for each individual to ensure reliability. The average weight and height were calculated and used to calculate BMI. BMI was calculated using the following formula:

$$\frac{Weight}{Height^2} = BMI$$

BMI was categorised as according to the WHO (2010) guidelines (See Table 3.4):

Table: 3.4 BMI categories (WHO, 2010)

Underweight	≤18.4
Normal weight	18.5 - 24.9
Overweight (pre-obese)	25.0 - 29.9
Obese (class I)	30.0 - 34.9
Obese (class II)	35.0 – 39.9
Obese (class III)	≥ 40.0

For analyses of associations, the following obese categories – class I, class II and class III – were collapsed into one category, namely obese +, meaning that if individuals fell into either category obese class I, II or III, they would then immediately be classified as obese+.

3.5.4 Resilience assessment

The abbreviated Nicholson McBride Resilience Questionnaire (NMRQ) was used to assess individual resilience (Clarke and Nicholson, 2010). The NMRQ measures the *‘ability to bounce back from rough times or even triumph in the face of adversity; to display tenacity, but not at the expense of reason’* (Clark and Nicholson, 2010). The scale has a high reliability with Cronbach’s Alpha = 0.76 (Ahuja *et al.*, 2020; Seethalakshmy *et al.*, 2021). The NMRQ consisted of 12 questions, and for each question the individual was asked to give themselves a score from 1 to 5, where 5 would be ‘strongly agree’ and 1 would be ‘strongly disagree’. This can be found in Appendix C.

The self-assigned scores for the questions were summed up, and the individual’s resilience was categorised based on the total score for the 12 questions, following the criteria outlined

in Tregoning *et al.* (2014) (see Table 3.2).

Table 3.3: Categorisation of resilience according to the NMRQ

0–37	38–43	44–48	49–60
A developing level of resilience	An established level of resilience	A strong level of resilience	An exceptional level of resilience

Source: Tregoning et al. (2014)

3.5.5 Lived Poverty Index assessment

Afrobarometer introduced the Lived Poverty Index (LPI), an experiential measure that relies on a series of inquiries regarding the frequency of individuals going without essential necessities (Mattes, 2020). The LPI was included in the General Household Survey and featured six statements pertaining to fundamental household needs. This questionnaire is well-suited for application in developing nations like South Africa, as it assesses the level of basic necessities and survival strategies among those in lower socio-economic strata (Meyer and Keyser, 2016). The score was presented as a cumulative total, where a score equal to or greater than 1 signified deprivation, or it could be broken down into specific aspects of lived poverty, such as food poverty, income poverty, and so forth. Individuals with a total LPI score exceeding 1 would consistently lack essential necessities (Mattes, 2020). This can be found in Appendix C.

3.6 Data analysis

On completion of the survey, data were captured in EPIDATA and exported to Excel. Data analysis was then performed in SPSS (version 26). The data analysis was done to test the null hypothesis of whether or not food security is associated with resilience. The relevant descriptive statistics are presented in tables and graphs. Tests for normality were done to determine if the data were normally distributed. Variables were changed from continuous to

categorical when variables were not normally distributed. Where the data were not normally distributed, the median and the 25th and 75th percentiles were used, instead of the mean, to describe the statistics.

Inferential statistics were performed using cross tabulation with p-value and Pearson's Chi-square test. This was done to determine whether there was a statistical significance between the variables. Multinomial and logistic regression analyses were also performed to estimate the relationship between the dependent and independent variables. Before the regression analysis was performed, the data was cleaned again of missing values in order to produce better results and outcomes. The data were also presented, with resilience being the dependent variable, with non-parametric tests. The Man Whitney U test was performed for the dichotomous variables and the Kruskal Willis test was performed for those with more than three groups.

Research validity, as explained by Patino and Ferreira (2018), pertains to how effectively the results obtained from a study sample accurately represent the true findings in a different group of individuals from a distinct study sample. Validity is often described as the degree to which a concept is precisely measured, as outlined by Heale and Twycross (2015). Reliability, in turn, relates to the precision of the tools used in the study and is linked to the consistency of measurements (Heale and Twycross, 2015).

To assess various variables, including socio-demographic characteristics, food security, resilience, and dietary intake, questionnaires were administered at a single point in time in 2019. This ensured validity and reliability of the results from the data collection. These questionnaires were administered by trained fieldworkers proficient in English, Afrikaans, and isiXhosa, which are the primary languages spoken by residents in Fisantekraal. Translation and back translation was done in order to make sure that there were no distortions in the questions and to ensure that there was uniformity in what was being asked during the

data collection. This approach allowed interviewees to respond in the language with which they were most comfortable. Prior to data collection, fieldworkers underwent training and received a set of guidelines to ensure uniform and well-defined interview procedures as well as to ensure quality is ensured during the data collection.

3.7 Ethics

The primary research received ethical clearance from the Biomedical Science Research Ethics Committee at the University of the Western Cape, under reference number BM19/3/4 (see Appendix A). The secondary study obtained approval from the Humanities and Social Science Research Ethics Committee at the University of the Western Cape, with the ethics reference number HS20/10/6 (see Appendix B). It is not clear whether the primary study had the provision for consent on the reuse of the data

Full consent (both verbal and written) was obtained from each participant in the primary study. Young people aged 18–25 years who were willing to participate in the study were given information sheets (see Appendix C), and the fieldworkers explained the study objectives and the study protocol. The information sheet included information on what the participant would be asked to do if they agreed to participate, how their confidentiality would be maintained and what risks were involved in participating in the study. Furthermore, the benefits of the research were explained. After reading and understanding the information sheet, the youth – if they were still willing to participate in the study – were requested to give their written informed consent (see Appendix C) in the language that they best understood. They were also given the necessary contact information in the event that they had any questions or to report any grievances. The information sheet and questionnaire were presented in English, Afrikaans, and isiXhosa.

A coded system was implemented to keep the participants' identities confidential, and no personal information was utilised or retained. This measure was taken to safeguard

individuals' privacy and anonymity and to ensure that the study complied with the POPI (Protection Of Personal Information) act. To safeguard their anonymity and the confidentiality of their responses, each participant was assigned a unique numerical code, which was used in place of their name for identification purposes. Their consent forms and personal information were securely stored separately from their completed questionnaires. The participants were not exposed to any harm during the survey, and they joined the study voluntarily, meaning that no one was coerced into completing the questionnaire.

In the analysis of the de-identified secondary data, there were concerns about maintaining the privacy and confidentiality of the data, as well as the necessity to ensure the data's security and encryption. However, authorisation was granted by the principal investigator, along with recognition of the research conducted and the efforts made (refer to Appendix D).

3.8 Voluntary participation and withdrawal

Participation in the study was voluntary, and the participants were informed about their rights to refuse to participate or to stop participating at any point during the research. When individuals were enlisted to take part in the research, they were provided with comprehensive information about the study's particulars and were given a guarantee that their identity would remain confidential and that they could withdraw from participation without facing any adverse consequences.

3.9 Limitations of the study

The major limitation of the study was the assumption that food security was rife in Fisantekraal. When the collected data was analysed food insecurity was very low. This affected the correlation analysis. Data collection took place before the start of the COVID-19 pandemic. As previously noted, there was an increase in food insecurity and unemployment in South Africa once the pandemic got under way. The COVID-19 pandemic limits the

generalisability of findings to other communities within the Western Cape and South Africa, and may even have created an inaccurate picture of the current state of food security in the community where the data were collected.

Owing to the study type, which relied on a quantitative, correlational, exploratory design, it is important to consider potential sources of bias that could have influenced the data-collection process. Two types of bias that are particularly relevant in this context are selection bias and information bias. In quantitative correlational designs, data are typically collected from a specific sample and the findings generalised to a larger population. However, if the participant cluster sampling selection process was flawed or biased, the sample might not be truly representative. There is also a high probability of sampling error. Information bias may arise from inaccurate self-report measures, wherein participants provide incomplete or incorrect information due to recall or social desirability biases. This tendency may occur when participants answer questions in a manner they believe the fieldworker expects or desires to hear. Another factor that could contribute to the limitations of the study was the absence of a controlled environment during the data-collection process.

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Chapter 4: Results

4.1 Introduction

This chapter presents the results and interprets the analysed data in line with the research aim and objectives. The overarching aim of the study was to determine if there is an association between food security and resilience among young people aged 18–24 years in Fisantekraal, South Africa. Descriptive and inferential statistics was used in order to analyse the data of the study. The socio-demographic profile of participants is presented below, along with the household food security and resilience profile of individual participants. The Lived Poverty Index of participants was analysed and the relationship between food security, resilience and additional factors are presented through Chi-Square tests and regression analysis.

4.2 Socio-demographic profile of participants

The cleaned anonymised data set comprised a total of 220 participants aged 18–24 years. The median age [median (25th / 75th percentile)] of the participants who took part in the survey was 22 years (20–23); with two-thirds of the participants (67.3%) being female (Table 4.1). Table 4.1 also presented a total of 192 (87.3%) of the participants lived with others (Table 4.1) in the household, the majority of participants who lived alone were female (n = 17; 7.7%) and the mean size of households (n = 220) with more than one person was 2.87, with the majority of households composed of (mode) 2 individuals.

More than 80% of the participants reported having achieved a level of education above Grade 7, which deemed them to be literate (83.2%; n = 183). At least 31.8% (n = 58) of the 183 participants who were literate reported having completed matric. Of all the participants (n = 220), 13.6% (n = 30) reported no formal educational background, while 9.1% (n = 20) reported having completed higher education (Table 4.1).

The majority of the participants interviewed were unemployed (78.9%; n = 172) consequently most (67.5%; n = 85) reported a household income of R3000 or less. It was reported that

47.3% (n = 104) of the households only had one individual who contributed to the total household income. When individuals were asked if they owned or rented the house that they were staying in, 64.5% (n = 142) reported that they owned the house, 13.2% (n = 29) reported that they were renting the house and 13.6% (n = 30) reported that they were using the house without paying rent. In only 2.3% of households did individuals report that they owned the land on which the house was situated. Furthermore, only 40.3% (n = 81) of the individuals were living in a (more) formal dwelling made of bare brick/cement blocks or plastered bricks, while the majority of individuals (59.7%; n = 120) resided in informal dwellings made of corrugated iron, zinc or plastic/cardboard (Table 4.1).

The majority (53.2%) of the households did not receive a CSG, followed by only one person per household who received the CSG (27.4 %; n = 55). With regard to the state old-age pension (SOP), only 6% (n = 12) of the households reported that one person in their household received the SOP and 1.5% (n = 3) reported that two people received the SOP. Only two (1%) households reported that one person received the disability grant (Table 4.1)

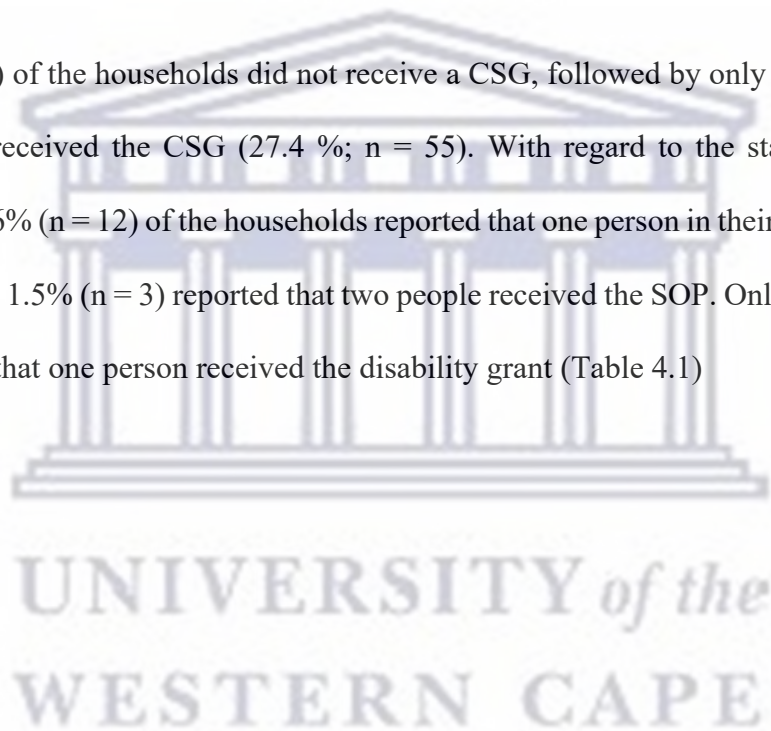


Table 4.1 Sociodemographics of participants

Parameter	Description	Median/Frequency
Age [(median; 25 th /75 th percentile)]	Years	22 (20–23)
Sex	Female [n (%)]	148 (67.3%)
	Male [n (%)]	72 (32.7%)
Education	Literate [n (%)]	183 (83.2%)
	Illiterate [n (%)]	37 (16.8%)
Employment status*	Unemployed [n (%)]	172 (78.9%)
	Self-employed [n (%)]	3 (1.4%)
	Wage earner [n (%)]	22 (10.1%)
	Part-time or casual worker [n (%)]	5 (2.3%)
	Other [n (%)]	16 (7.3%)
Living alone or with others	Living alone [n (%)]	28 (12.7%)
	Living with others [n (%)]	192 (87.3%)
Mean number of individuals per household		2.87
Total household income per month*	Less than and equal to R3000 [n (%)]	85 (67.5%)
	More than and equal to R3001 [n (%)]	41 (32.5%)
How many of the following social grants are received in this household?	Child support grant [n (%)] – 0 persons	117 (58.2%)
	1 person	55 (27.4%)
	2 persons	24 (11.9%)
	3 or more persons	5 (2.5%)
	State old-age pension [n (%)] – 0 persons	186 (92.5%)
	1 person	12 (6%)
	2 persons	3 (1.5%)
	Disability grant [n (%)] - 0 persons	186 (99%)
	1 person	2 (1.0%)
	How many people contribute to the total income in this household?*	None- no income [n (%)]	52 (23.6%)
1 person		104 (47.3%)
2 persons [n (%)]		38 (17.3%)
3 or more persons [n (%)]		7 (3.2%)
Does this household have electricity?*	Yes (1)	199 (90.5%)
	No (2)	21 (9.5%)
Does this household or a household member own the house? If not, do they rent it or live there without paying rent or live there temporarily?*	Owens the house [n (%)]	142 (64.5%)
	Rents the house [n (%)]	29 (13.2%)
	Uses without paying rent	30 (13.6%)
What is the main material of the exterior walls of the dwelling?*	Plastic/cardboard or corrugated iron/zinc	120 (59.7%)
	Bare brick/cement blocks or plastered brick	81 (40.3%)
Does any member of this household own any land?*	Yes [n (%)]	5 (2.3%)
	No [n (%)]	196 (89.1%)
Do you grow anything on the land?*	Yes [n (%)]	0 (0%)
	No [n (%)]	5 (2.3%)
	Dug well protected/covered well [n (%)]	2 (0.9%)
Does any member of the household own livestock?*	Yes [n (%)]	0 (0%)
	No [n (%)]	201 (91.4%)

Table 4.1 Sociodemographics of participants (continued)

Parameter	Description	Median/Frequency
What is the main source of drinking water for the members of your household?*	Piped water into dwelling [n (%)]	73 (33.2%)
	Piped water to yard/plot [n (%)]	34 (15.5%)
	Piped water to public tap/standpipe [n (%)]	91 (41.4%)
	Tube well/borehole [n (%)]	1 (0.5%)
	Dug well protected/covered well [n (%)]	2 (0.9%)

*Total did not equate to n=220 due to missing values

4.3 Household food security of youth

The Household Hunger Score (HHS) was used to assess the food security status of youth in Fisantekraal, along with individuals' dietary energy intake and anthropometric assessments (weight, height, and BMI). The data suggest that the majority of the participants (96.4%; n = 212) experienced little to no hunger (Table 4.2). None of the participants experienced severe hunger.

The majority of the participants had a dietary energy intake of 4201–8400kJ (52.1%; n = 114), while 38.4% (n = 84) had a dietary energy intake above 8400kJ. A total of 216 of the 220 participants (98%) agreed to have their weight and height measured. The mean BMI was 24.78 ± 6.01 kg/m². Approximately half the participants (52.3%; n = 115) had a normal BMI, with only 8.2% (n = 18) being underweight. The remaining 37.8% (n = 81) of participants fell above the normal weight and were classified as overweight/pre-obese, obese class 1, obese class 2 and obese class 3, as per the WHO standard (Table 4.2).

Table 4.2: Household food security status of participants

Parameter	Description	Median/Frequency
Dietary energy intake [mean (SD)]	Kilojoules	8093.96 (3404.19)
Dietary energy intake [(median; 25 th / 75 th percentile)]	Kilojoules	7464.71 (5958.04–9664.15)
Dietary energy intake categories *	0–4200kJ [n (%)]	21 (9.6%)
	4201–8400kJ [n (%)]	114 (52.1%)
	8400kJ+ [n (%)]	84 (38.4%)
Household Hunger Score	Little to no hunger [n (%)]	212 (96.4%)
	Moderate hunger [n (%)]	8 (3.6%)
Weight [mean; (SD)]	Kilograms	64.93 (15.36)
Weight [(median; 25 th /75 th percentile)]	Kilograms	62.60 (54.50–71.08)
Height [mean; (SD)]	Centimetres	162.11 (12.80)
Height [(median; 25 th /75 th percentile)]	Centimetres	161.80 (156.08–168.45)
BMI [(mean; SD)]	kg/m ²	24.78 (6.01)
BMI [(median; 25 th /75 th percentile)]	kg/m ²	23.41 (20.72–27.72)
BMI categories*	Underweight (BMI<18.5) [n (%)]	18 (8.4%)
	Normal weight [n (%)]	115 (53.7%)
	Overweight/pre-obese [n (%)]	45 (21.0%)
	Obese + [n (%)]	36 (16.8%)

*Total did not equate to n=220 due to missing values

4.4 Lived Poverty Index

The Lived Poverty Index (LPI) provides a subjective perception of how often participants lived without the five basic necessities (food, water, medicines, fuel to cook and cash) over the previous 12 months. The majority of individuals responded 'never' to the following questions:

- i. Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat? (87.6%; n = 176);
- ii. Over the past year, how often, if ever, have you or anyone in your family: Gone without enough clean water for home use? (72.6%; n = 146);
- iii. Over the past year, how often, if ever, have you or anyone in your family: Gone without medicines or medical treatment? (93.5%; n = 188);
- iv. Over the past year, how often, if ever, have you or anyone in your family: Gone without

enough fuel to cook your food? (79.5%; n = 159) (see Table 4.3).

Half the individuals (54.7%; n = 110) reported never having '*gone without an income over the last year*', while the remaining participants reported having gone without an income '*just once or twice*' (19.4%), '*several times*' (17.4%), '*many times*' (3.4%) and '*always*' (2.5%). Only 2.5% of the participants reported '*(I don't know)*' (Table 4.3).

A summative construct of all five categories was used to categorise participants' deprivation status. 'Deprived' participants was defined as those who scored more than or equal to 1, and participants who was defined as being 'not deprived' scored 0 (zero). All the LPI responses were recoded, with the majority of individuals reported not being deprived, i.e., not having gone without the basic necessities (Table 4.4). The mean of the LPI for deprived and not deprived was calculated at 1.28 (SD = 0.599).

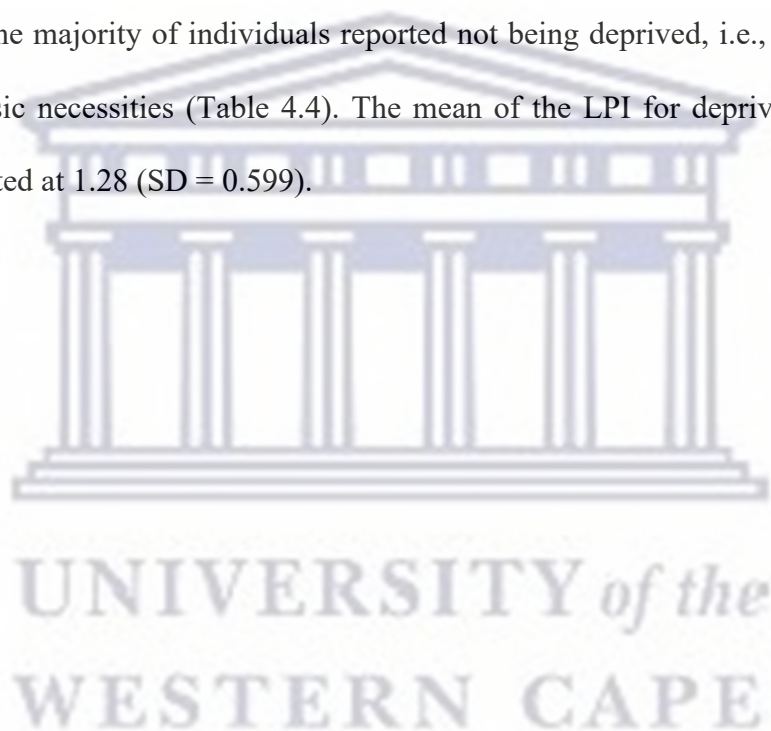


Table 4.3 Lived Poverty Index

LPI questions	Description	[n (%)]
Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat?*	Never	176 (87.6%)
	Just once or twice	14 (7.0%)
	Several times	8 (4.0%)
	Many times	1 (0.5%)
	Always	0 (0%)
	Don't know	2 (1.0%)
Over the past year, how often, if ever, have you or anyone in your family: Gone without enough clean water for home use?*	Never	146 (72.6%)
	Just once or twice	22 (10.9%)
	Several times	28 (13.9%)
	Many times	1 (0.5%)
	Always	0 (0%)
	Don't know	4 (2.0%)
Over the past year, how often, if ever, have you or anyone in your family: Gone without medicines or medical treatment?*	Never	188 (93.5%)
	Just once or twice	11 (5.5%)
	Several times	1 (0.5%)
	Many times	0 (0%)
	Always	0 (0%)
	Don't know	1 (0.5%)
Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food?*	Never	159 (79.5%)
	Just once or twice	16 (8.0%)
	Several times	24 (12%)
	Many times	0 (0%)
	Always	0 (0%)
	Don't know	1 (0.5%)
Over the past year, how often, if ever, have you or anyone in your family: Gone without a cash income?*	Never	110 (54.7%)
	Just once or twice	39 (19.4%)
	Several times	35 (17.4%)
	Many times	7 (3.4%)
	Always	5 (2.5%)
	Don't know	5 (2.5%)

*Total did not equate to n=220 due to missing values

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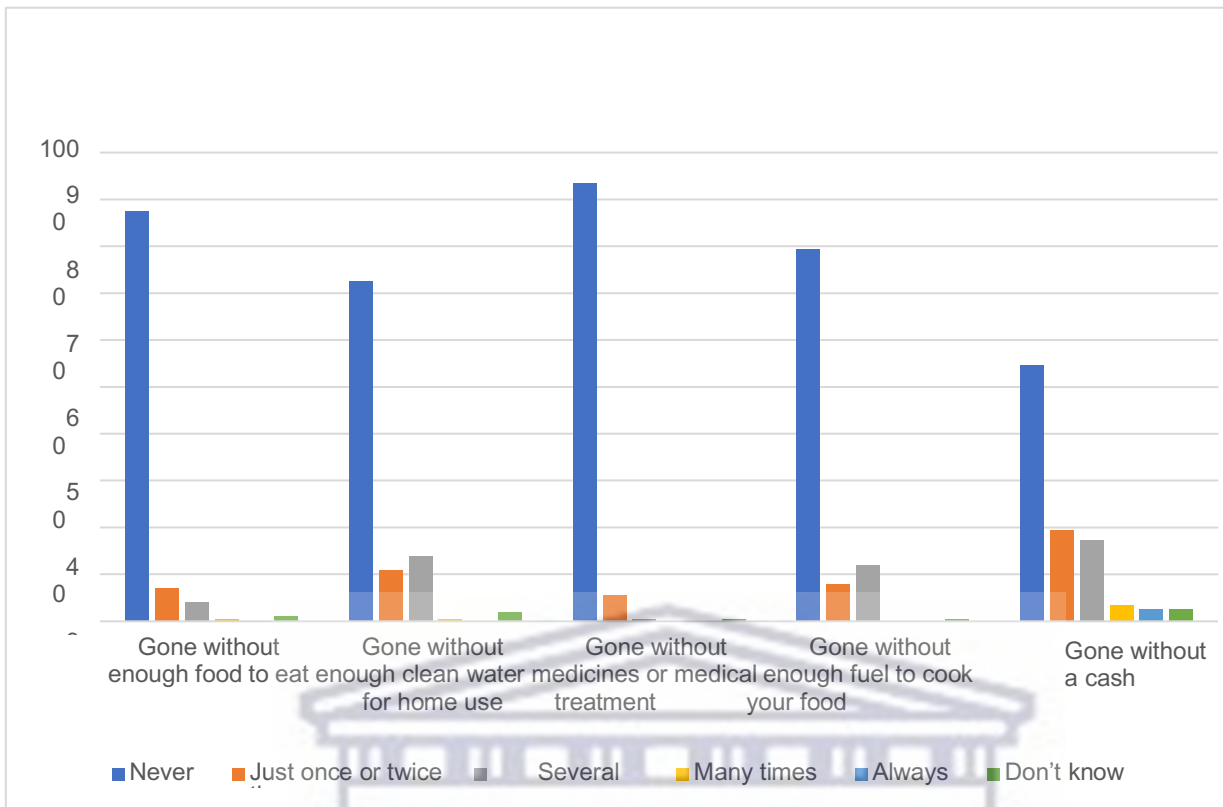


Figure 4.1: Lived Poverty Index

Table 4.4: Lived Poverty Index: deprived vs not deprived

LPI questions	Deprived [n(%)]	Not deprived [n(%)]
Gone without enough food to eat?*	23 (11.6%)	176 (88.4%)
Gone without enough clean water for home use?*	52 (25.9%)	147 (74.1%)
Gone without medicines or medical treatment?*	12 (6%)	187 (94%)
Gone without enough fuel to cook your food?*	40 (20.1%)	159 (79.9%)
Gone without a cash income?*	87 (43.9%)	112 (56.1%)
Mean LPI score (for deprived and not deprived)	1.28 (S = 0.599)	

*Total did not equate to n=220 due to missing values

4.5 Resilience of youth

Out of the 220 participants, 25 (11.3%) had not completed the resilience questionnaire. Of the 195 who completed the resilience questionnaire, 69 of participants (35.4%) were categorised as having established resilience, 52 participants (26.7%) were categorised as having strong resilience, 39 participants (20%) were categorised as having exceptional resilience and only 35 participants (17.9%) were categorised as developing resilience (Figure 4.2).

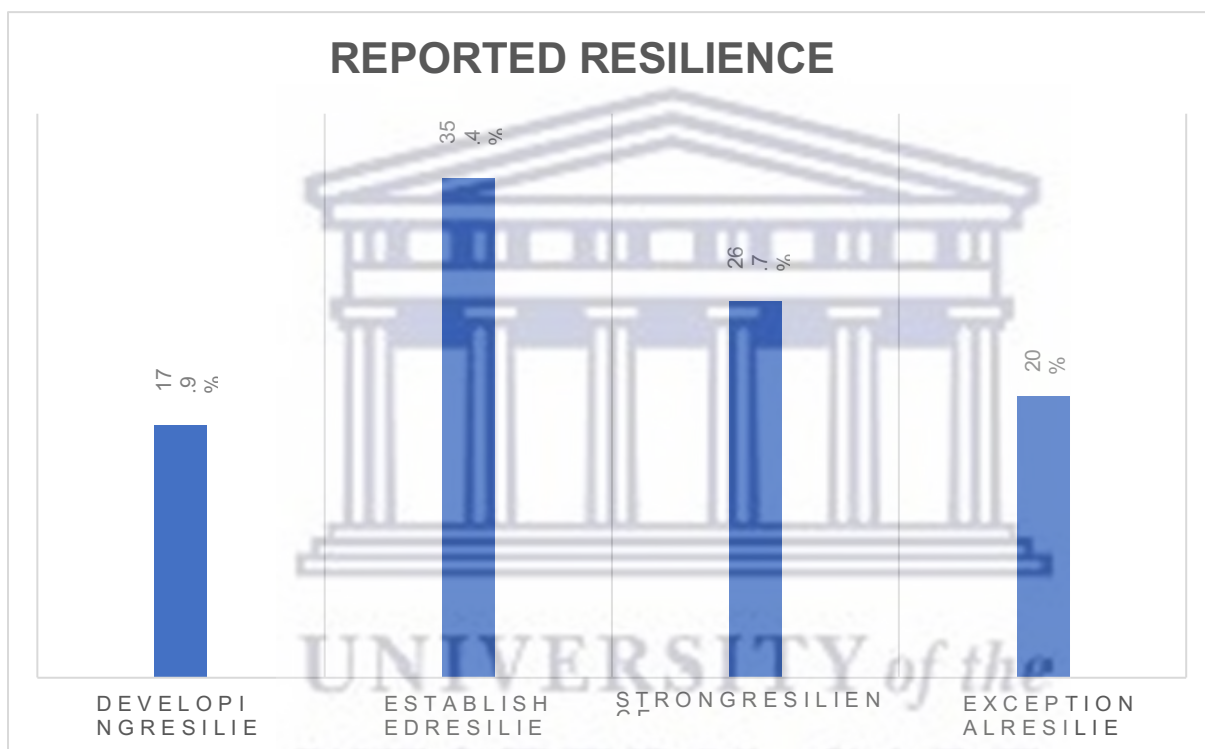


Figure 4.2: Resilience profile

4.6 Factors associated with resilience and food security

The median of resilience scores between literate and illiterate was 44 (IQR = 5.75) and 40 (IQR = 8), where those who were literate had a higher resilience score than those who were illiterate. The Man Whitney U test indicated that the difference was statistically significant ($p = 0.004$). The median resilience score of those who were employed was higher [45 (40–48)] than that of those who were unemployed [42 (39–47)], although not significantly different

($p = 0.154$). There was no difference in the resilience score between those who experienced 'little or no hunger' and those who experienced 'moderate hunger' ($p = 0.800$) or between men and women ($p = 0.226$).

In terms of income, a statistically significant difference was found in the resilience score between those who earned $\leq R3000$ and those who earned $\geq R3001$ ($p = 0.013$). The Kruskal-Willis test showed no significant difference in the resilience score between the BMI categories ($p = 0.159$) and dietary (kJ) intake categories ($p = 0.451$) (Table 4.5).

Table 4.5: Difference in total resilience score between groups

Parameter	Description of variable	Median (25th / 75th percentile)	Mann U Whitney/K independent samples
Education	Literate	44 (38; 43.75)	Mann U Whitney = 1990.50 $p = 0.004$
	Illiterate	40 (40; 48)	
Employment	Employed	45 (40; 48)	Mann U Whitney = 2784.50 $p = 0.154$
	Unemployed	42 (39; 47)	
Income	$\leq R3000$	42 (39; 46)	Mann U Whitney = 1013.50 $p = 0.013$
	$\geq R3001$	46 (42; 49)	
BMI	Underweight	46 (42; 51.75)	Kruskal-Willis = 3.68 $p = 0.159$
	Normal weight	43 (38.50; 50.80)	
	Overweight	43 (40; 47)	
	Obese +	43 (40; 47)	
Energy intake	0–4200 kJ	41 (36.50; 45)	Kruskal-Willis = 1.591 $p = 0.451$
	4201–8400 kJ	43 (39; 47)	
	8401 kJ +	43 (39; 49)	
Hunger score	Little/no hunger	43 (39; 47)	Mann U Whitney = 708.50 $p = 0.800$
	Moderate hunger	43.50 (39.25; 48.75)	
Sex	Female	43 (38; 47)	Mann U Whitney = 3746.00 $p = 0.226$
	Male	44.50 (41; 48)	
Received grants	No	43 (39; 47.25)	Mann U Whitney = 3753.00 $p = 0.837$
	Yes	43 (38.75; 48)	

Cross tabulations and the Chi-square test were done between the resilience categories and all categorical variables. There were statistically significant associations between resilience and literacy ($\chi^2 = 9.69$; $p = 0.021$) and income ($\chi^2 = 21.427$; $p = 0.002$), but not for any of the other categorical variables (Table 4.6). Higher proportions of literate participants reported higher levels of resilience. The proportion of participants who earned $>R3001$ was significantly higher in participants who had been categorised as having strong resilience and exceptional

resilience (43.2% and 27% vs 27.3% and 13% respectively) (Table 4.6).

Table 4.6: Assessing the association between selected predictors and resilience

Predictors	Category	Resilience				X ² (p-value)
		Developing resilience [n (%)]	Established resilience [n (%)]	Strong resilience [n (%)]	Exceptional resilience [n (%)]	
Education	Illiterate	8 (22%)	19 (52.8%)	7 (19.4%)	2 (5.6%)	9.693 ² (0.021)
	Literate	27 (17%)	50 (31.4%)	45 (28.3%)	37 (23.3%)	
Employment	Unemployed	29 (19.2%)	55 (36.4%)	38 (25.2%)	29 (19.2%)	1.252 ² (0.740)
	Employed	6 (14%)	14 (32.6%)	13 (30.2%)	10 (23.3%)	
Living alone or not	Living alone	3 (11.1%)	6 (22.2%)	12 (44.4%)	6 (22.2%)	6.142 ² (0.105)
	Living with others	32 (19%)	63 (37.5%)	40 (23.8%)	33 (19.6%)	
Sex	Female	27 (21.3%)	43 (33.9%)	33 (26%)	24 (18.9%)	6.234 ² (0.397)
	Male	8 (12.1%)	24 (36.4%)	19 (28.8%)	15 (22.7%)	
Income	Less than R3000	10 (13%)	36 (46.8%)	21 (27.3%)	10 (13%)	21.427 ² (0.002)
	More than R3001	4 (10.8%)	7 (18.9%)	16 (43.2%)	10 (27%)	
Hunger score	Little/no hunger	34 (18.2%)	66 (35.3%)	50 (26.7%)	37 (19.8%)	0.262 ² (0.967)
	Moderate hunger	1 (12.5%)	3 (37.5%)	2 (25%)	2 (25%)	
Dietary energy intake	0–4200KJ	5 (29.4%)	5 (29.4%)	4 (23.5%)	3 (17.6%)	6.010 ² (0.422)
	4201–8400KJ	15 (14.9%)	39 (37.9%)	32 (31.1%)	17 (16.5%)	
	8400KJ +	15 (20.3%)	24 (32.4%)	16 (21.6%)	19 (25.7%)	
BMI	Underweight	1 (6.3%)	6 (37.5%)	2 (12.5%)	7 (43.8%)	10.516 ² (0.105)
	Normal weight	22 (21.8%)	33 (32.7%)	30 (29.7%)	16 (15.8%)	
	Overweight/obese	11 (15.5%)	29 (40.8%)	19 (26.8%)	12 (16.9%)	
Received grants	No	14 (14.3%)	38 (38.8%)	27 (27.6%)	19 (19.4%)	2.119 ² (0.548)
	Yes	16 (20.5%)	24 (30.8%)	20 (25.6%)	18 (23.1%)	

Cross tabulations and the Chi-square test were done between food security categories and all categorical variables (Table 4.7). There was a statistically significant association between hunger score and dietary energy (kJ) intake ($x^2 = 6.081$; $p = 0.048$). There was also a statistically significant association between LPI question 1 (*‘Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat but not for any of the other?’*) and hunger score ($x^2 = 83.562$; $p = 0.001$), and between LPI question 4 (*‘Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food?’*) and hunger score ($x^2 = 12.24$; $p = 0.016$) (Table 4.7).

The proportion of individuals in the dietary energy intake categories of 0–4200kJ, 4201–8400kJ and 8400kJ+ mostly experienced little to no hunger (90.5%, 94.7%, 100%,

respectively). Cross-tabulation analysis was done between the LPI question (*'Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat?'*) and hunger score, and a significant association was found. The proportion of individuals who experienced little to no hunger was most prevalent among those who answered *'never'*, *'just once or twice'*, *'many times'* and *'don't know'* (98.9%, 92.9%, 100%, 100%, respectively). The proportion of individuals who experienced moderate hunger was most prevalent among those who answered *'several times'* (62.5%). Similarly, a significant association was found between the LPI question (*'Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food?'*) and hunger score. The proportion of individuals who experienced little to no hunger was most prevalent among those who answered *'never'*, *'just once or twice'*, *'several times'* and *'don't know'* (96.9%, 81.3%, 100%, 100%, respectively) (Table 4.7).

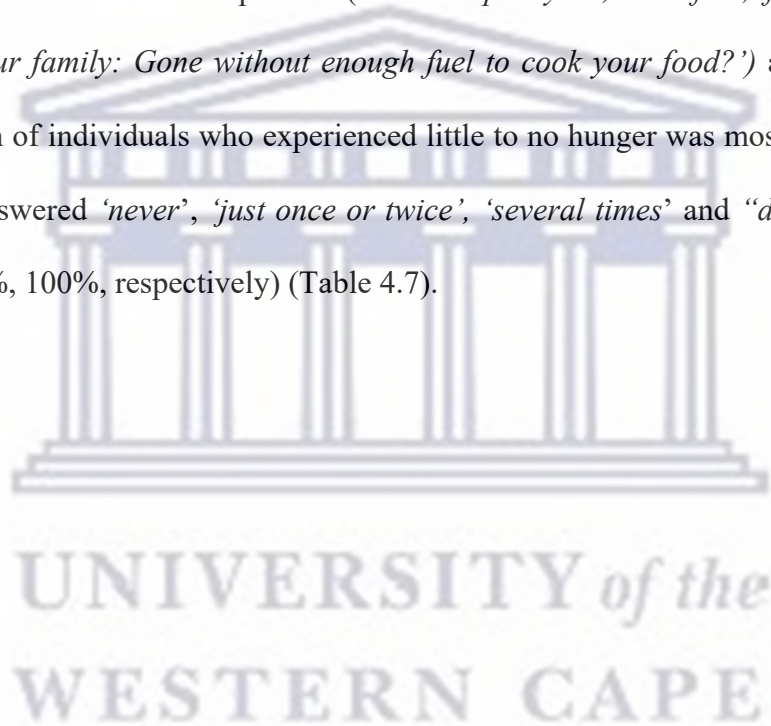


Table 4.7: Assessing the association between selected predictors and hunger score

Predictors	Category	Hunger score		X ² (p-value)
		Little to no hunger [n (%)]	Moderate hunger [n (%)]	
Education	Illiterate	36 (97.3%)	1 (2.7%)	0.111 ² (0.739)
	Literate	176 (96.2%)	7 (3.8%)	
Employment	Unemployed	164 (95.3%)	8 (4.7%)	2.221 ² (0.136)
	Employed	46 (100%)	0 (0.0%)	
Living alone or not	Live alone	27 (96.4%)	1 (3.6%)	0.000 ² (0.984)
	Living with others	185 (96.4%)	7 (3.6%)	
Sex	Female	138 (95.8%)	6 (4.2%)	0.375 ² (0.829)
	Male	72 (97.3%)	2 (2.7%)	
Income	Less than R3000	5 (6.0%)	79 (94%)	0.992 ² (0.609)
	More than R3001	1 (2.4%)	40 (97.6%)	
Dietary energy intake	0–4200kJ	19 (90.5%)	2 (9.5%)	6.081 ² (0.048)
	4201–8400kJ	108 (94.7%)	6 (5.3%)	
	8400kJ +	84 (100%)	0 (0.0%)	
BMI	Underweight	15 (93.8%)	1 (6.3%)	1.614 ² (0.446)
	Normal weight	110 (96.5%)	4 (3.5%)	
	Overweight/obese	80 (98.8%)	1 (1.2%)	
Received grants	No	105 (96.3%)	4 (3.7%)	0.060 ² (0.806)
	Yes	88 (95.7%)	4 (4.3%)	
Resilience	Developing resilience	34 (97.1%)	1 (2.9%)	0.262 ² (0.967)
	Established resilience	66 (95.7%)	3 (4.3%)	
	Strong resilience	50 (96.2%)	2 (3.8%)	
	Exceptional resilience	37 (94.9%)	2 (5.1%)	
Lived Poverty Index: Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat?	Never	174 (98.9%)	2 (1.1%)	83.56 ² (0.001)
	Just once or twice	13 (92.9%)	1 (7.1%)	
	Several times	3 (37.5%)	5 (62.5%)	
	Many times	1 (100%)	0 (0%)	
	Don't know	2 (100%)	0 (0%)	
Lived Poverty Index: Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food?	Never	154 (96.9%)	5 (3.1%)	12.24 ² (0.016)
	Just once or twice	13 (81.3%)	3 (18.8%)	
	Several times	24 (100%)	0 (0%)	
	Don't know	1 (100%)	0 (0%)	
LPI score	Not deprived	91 (98.9%)	1 (1.1%)	4.14 ² (0.42)
	Deprived	94 (93.1%)	7 (6.9%)	

4.7 Regression analysis of food security and resilience

A regression is a statistical method that establishes a connection between a dependent variable and one or more independent (explanatory) variables. A regression model can determine if variations in the dependent variable are linked to variations in one or more of the explanatory variables.

This section explains the results from the multinomial and linear regression analysis. The multinomial regression analysis was conducted to see if there was an association between, and to ascertain the effects of, food security (hunger score), employment status, living alone or living with others, education, household income, sex, dietary intake and BMI, on the likelihood of resilience.

The Pearson Chi-square test indicated that the regression model did not fit the data well ($p = 0.411$). Therefore, it was not statistically significant, and the null hypothesis should be accepted – that there is no association between food security and resilience. The deviance goodness-of-fit results indicated the alternative – that this was a good-fitting model (92.2%). The goodness-of-fit indicated that the dependant variable, i.e., resilience, fit well with the set of observations and variables and summarised the discrepancy between what was observed and what was expected.

The model-fitting information represented that the full model was statistically significant ($p = 0.016$) and predicted the dependent variable better than the incept-only model. This indicates that the model fit the data better than the null model. The McFadden R-square (19.2%) was statistically insignificant, indicating that the proportion of variance is not easily or cannot be explained by the model. It was expected that the dependent variable (resilience) would have a relationship or association with hunger score and other independent variables. What was observed, however, was that there was only a statistically significant relationship between resilience and income ($p = 0.011$). The likelihood ratio tests also indicated that only the income variable was statistically significant ($p = 0.011$). Income had a significant overall effect on the outcome. Therefore, based on this variable, the null hypothesis should be rejected (Table 4.8).

The insignificance presented by the other variables could be due to the sample size being too small or the random variation in the groups being too large to find a clearly significant effect,

if an effect in fact existed. The insignificance only means that the data did not provide evidence of an effect; it does not mean that such an effect could not exist as it might just be too small. For the variables that presented as non-significant, the null hypothesis is not rejected.

Table 4.8 Multinomial regression analysis of individual resilience

Resilience		B	Std. Error	Wald	df	Sig.	Exp(B)	95% confidence interval for Exp(B)	
								Lower bound	Upper bound
Developing	Intercept	-1.09	1.63	.45	1	.50			
	≤R3000	.18	.93	.04	1	.85	1.20	.19	7.43
	≥R3001	0 _b	.	.	0	.	.	.	.
	Received no grants	.62	1.00	.38	1	.54	1.85	.26	13.13
	Received grants	0 _b	.	.	0	.	.	.	.
	Illiterate	1.33	1.12	1.40	1	.24	3.78	.42	34.16
	Literate	0 _b	.	.	0	.	.	.	.
	Unemployed	1.07	1.18	.83	1	.36	2.91	.29	29.05
	Employed	0 _b	.	.	0	.	.	.	.
	0-4200kJ	15.29	1501.50	.00	1	.99	4364381.06	.000	. ^c
	4201-8400kJ	-.87	.93	.88	1	.35	.42	.07	2.59
	8400+kJ	0 _b	.	.	0	.	.	.	.
	Underweight	-1.04	1.65	.40	1	.53	.36	.014	8.94
	Normal weight	1.10	.99	1.24	1	.27	3.01	.44	20.78
	Overweight/obese	0 _b	.	.	0	.	.	.	.
	Little/no hunger	-.73	.00	.	1	.	.48	.48	.48
	Moderate hunger	0 _b	.	.	0	.	.	.	.
	Male	-1.01	1.11	.84	1	.36	.36	.04	3.18
	Female	0 _b	.	.	0	.	.	.	.
	Living alone	-1.15	1.50	.56	1	.46	.33	.02	6.17
Living with others	0 _b	.	.	0	.	.	.	.

Table 4.8 Multinomial regression analysis of individual resilience (continued)

Resilience		B	Std. Error	Wald	df	Sig.	Exp(B)	95% confidence interval for Exp(B)	
								Lower bound	Upper bound
Established	Intercept	14.89	2.00	55.26	1	<.001			
	≤R3000	1.33	.77	2.98	1	.09	3.78	.83	17.17
	≥R3001	0 _b	.	.	0	.	.	.	.
	Received no grants	.72	.81	.80	1	.37	2.06	.42	9.98
	Received grants	0 _b	.	.	0	.	.	.	.
	Illiterate	1.40	.98	2.05	1	.15	4.06	.60	27.59
	Literate	0 _b	.	.	0	.	.	.	.
	Unemployed	1.23	.87	2.00	1	.16	3.40	.62	18.58
	Employed	0 _b	.	.	0	.	.	.	.
	0–4200kJ	15.63	1501.50	.00	1	.99	6145048.20	.00	. ^c
	4201–8400kJ	.21	.74	.08	1	.08	1.23	.29	5.27
	8400kJ+	0 _b	.	.	0	.	.	.	.
	Underweight	-2.65	1.45	3.34	1	.07	.07	.00	1.21
	Normal weight	-.57	.81	.51	1	.48	.56	.12	2.73
	Overweight/obese	0 _b	.	.	0	.	.	.	.
	Little/no hunger	-16.88	1.64	105.52	1	<.001	4.68E-8	1.87E-9	1.17E-6
	Moderate hunger	0 _b	.	.	0	.	.	.	.
	Male	1.29	.83	2.40	1	.12	3.64	.71	18.66
	Female	0 _b	.	.	0	.	.	.	.
	Living alone	-.69	1.07	.42	1	.52	.50	.06	4.09
Living with others	0 _b	.	.	0	.	.	.	.

Table 4.8 Multinomial regression analysis of individual resilience (continued)

Resilience		B	Std. Error	Wald	df	Sig.	Exp(B)	95% confidence interval for Exp(B)	
								Lower bound	Upper bound
Strong	Intercept	14.53	1.21	144.98	1	<.001			
	≤R3000	-.78	.70	1.26	1	.26	.46	.12	1.80
	≥R3001	0 _b	.	.	0	.	.	.	.
	Received no grants	1.02	.80	1.64	1	.20	2.78	.58	13.34
	Received grants	0 _b	.	.	0	.	.	.	.
	Illiterate	-.28	1.02	.07	1	.79	.76	.10	5.63
	Literate	0 _b	.	.	0	.	.	.	.
	Unemployed	.74	.84	.79	1	.38	2.10	.41	10.80
	Employed	0 _b	.	.	0	.	.	.	.
	0–4200kJ	16.36	1501.50	.000	1	.99	12689132.72	.00	. ^c
	4201–8400kJ	.86	.73	1.37	1	.24	2.35	.56	9.88
	8400+kJ	0 _b	.	.	0	.	.	.	.
	Underweight	-1.42	1.16	1.50	1	.22	.24	.03	2.36
	Normal weight	.22	.78	.08	1	.78	1.24	.27	5.66
	Overweight/obese	0 _b	.	.	0	.	.	.	.
	Little/no hunger	-15.33	.00	.	1	.	2.2E-7	2.2E-7	2.2E-7
	Moderate hunger	0 _b	.	.	0	.	.	.	.
	Male	.11	.80	.02	1	.90	1.11	.23	5.31
	Female	0 _b	.	.	0	.	.	.	.
	Living alone	1.20	.99	1.50	1	.23	3.32	.48	23.23
Living with others	0 _b	.	.	0	.	.	.	.

Logistic regression was used to predict the relationship between the dependent variable, i.e., hunger score, and the independent variables, i.e., resilience, sex, living alone or not, income, dietary intake, employment, education, BMI, and those who did and did not receive grants. There was a positive degree of correlation between the dependent and independent variables, but the degree of correlation was low ($R = 0.286$). The $R^2 (= 0.082)$ indicated that 8.2% of the total variation in the dependent variable, i.e., hunger score, could be explained by the independent variables. The regression model did not significantly predict the outcome

($p = 0.484$). There was not enough evidence to significantly predict the outcome of the study due to the low regression mode. No significance was found between the dependent variable and the independent variables.

Table 4.9: Logistic regression of hunger score

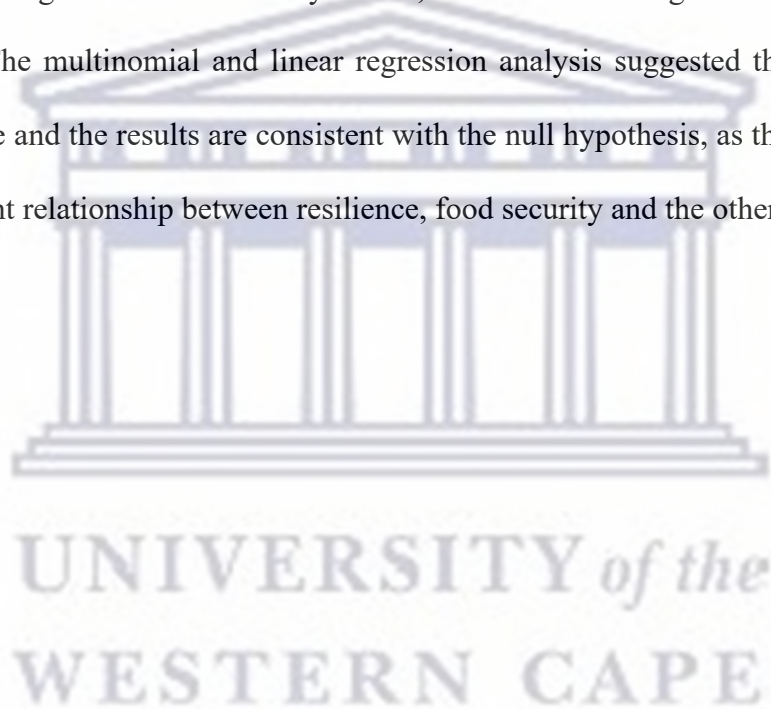
Model		Unstandardised coefficients		Standardised coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	1.052	.138		7.596	<.001
	Employment	-.022	.035	-.069	-.641	.523
	Education	.011	.035	.037	.309	.758
	BMI range (underweight vs normal weight +)	-.013	.025	-.054	-.510	.611
	Grants	.037	.033	.134	1.125	.263
	Income	.058	.031	.199	1.889	.062
	Dietary intake (0–4200kJ vs 4201kJ +)	-.025	.024	-.110	-1.040	.301
	Resilience	-.008	.016	-.052	-.495	.622
	Sex	-.018	.032	-.062	-.553	.582
	Living alone or not	-.011	.040	-.029	-.275	.784

4.8 Summary of results

The median age of the participants who took part in the study was 22 years, the majority of whom were female (63.7%; $n = 148$) and lived with others in the household (87.3%; $n = 192$). Most of the individuals were literate (83.2%; $n = 183$), unemployed (78.9%; $n = 172$) and did not receive any social support grant (CSG: 58.2%; $n = 117$; state old-age pension: 92.5%; $n = 186$; disability grant: 99%; $n = 186$). There was a low level of self-reported hunger, as the majority of individuals reported little to no hunger (96.4%; $n = 212$) and had a dietary energy intake of 4201–8400kJ (52.1%; $n = 114$). Half the participants in the study had a normal BMI (53.7%; $n = 115$). According to the LPI, the majority of individuals reported not being deprived of necessities. With regard to the resilience of the individuals who participated in

the study, the majority of youth fell into the established resilience category (35.4%; n = 69) with only 17.9% (n = 35) falling into the developing resilience category.

The analysis indicated that there was a statistically significant difference in resilience between literacy groups and income groups, highlighting that these two variables played a role in the resilience level of individuals. This means that individuals are proportionately more literate and have a higher level of income in higher-resilience categories. When assessing the cross tabulation and Chi-square test for food security categories, there was a statistically significant difference between hunger score and dietary intake, and between hunger score and LPI questions 1 and 4. The multinomial and linear regression analysis suggested that the null hypothesis is possible and the results are consistent with the null hypothesis, as there was no statistically significant relationship between resilience, food security and the other variables.



Chapter 5: Discussion

This chapter contextualises and discusses the findings from this study which explored the association between food security and resilience among youth aged 18–24 years living in Fisantekraal in Cape Town, South Africa. The main objectives of this study were to: determine the household food security status of youth; to assess the resilience of these youth; and to assess the correlation between food security, resilience, socio-economic and demographic variables as well as other factors associated with food security and resilience.

Historically, South African policy has concentrated on food security, and regulations and measures have been implemented to ensure it is addressed. However, food insecurity remains a problem in the country, primarily rooted in inequality relating both to the availability and accessibility of food (Stats SA, 2019c). This situation disproportionately affects the disadvantaged population and neglects their essential needs. This is not exclusive to South Africa; Berlie (2020) highlights that the urban poor in Ethiopia are often ignored and undermined in research and government initiatives pertaining to food security. Dake (2021) emphasises that despite the high levels of malnutrition in sub-Saharan Africa, urban food security is still neglected and overlooked in global food security and development conversations. Food security policy failure is not caused by a lack of legal frameworks. Instead, it is due to inadequate planning which fails to address the food security needs of urban households (Battersby and Watson, 2018).

As Africa's population continues to urbanise, there is a need for food security policies to focus more on urban households. In contrast to national statistics and other studies, most households in this study were reported to be food secure. This contradiction underscores the importance of nuanced and context-specific approaches to understanding and addressing food security challenges. It emphasizes the need for policymakers and stakeholders to engage directly with

communities to develop effective strategies that reflect their experiences, coping strategies and realities, and not explicitly focus on the broader context of food security. Failure to focus on individual community and context specific circumstances undermines efforts to achieve sustainable development and address root causes.

Lokosang *et al.* (2016) stated that individuals who are susceptible to shocks and lack the ability to bounce back are usually situated at the most disadvantaged end of the food security spectrum. In relation to this study, a large proportion of the individuals presented as having established resilience. This was expected when majority of individuals in Fisantekraal presented as food secure, although a relationship between food security and resilience was not presented in this study. Further exploring how individuals develop resilience in response to both immediate and prolonged challenges is essential for understanding their strategies for coping with and recovering stressors that lead to hunger, malnutrition, and food insecurity (Hendriks, 2015).

The findings from the study indicate that there is an association between income, education and the resilience of participants, with statistical evidence to show that there is a significant association between hunger score (food security), dietary intake and LPI question 1 (*'Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat but not for any of the other?'*) and LPI question 4 (*'Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food?'*). The results of the study show no direct association between resilience and food security. Therefore, the results are consistent with the null hypothesis. This was further supported by the regression analysis which indicated that there is no direct association between food security and resilience.

The HHS is used to establish where resources and interventions are needed (Ballard *et al.*, 2011). Additionally, it allows for the experience or perception of household food security to be captured (DiClemente *et al.*, 2021). As the majority of individuals in this study reported their households to be food secure, it was difficult to deduce from the analysis whether or not certain variables had an effect on food security, and vice versa. This was an unexpected finding, given the nature and history of Fisantekraal. With Fisantekraal's high unemployment rate (60%), it is known that the community faces many challenges with resources in the home environment due to physical location and associated social ills (Pols, 2019).

The low level of hunger experienced by households in Fisantekraal may be due to coping strategies employed by households and individuals. The coping strategies could be individuals or households selling valuables in order to purchase food, which in turn reduces their assets, and assets are known to be a key element in recovery and resilience. This could result in individuals exacerbating their food insecurity (Hendriks, 2015). The median dietary energy intake was reported as 7464.71kJ, with the majority (52.1%; n = 114) consuming between 4201kJ and 8400kJ, although the dietary quality of their total energy intake was not analysed. It is assumed that their diets are low in nutritional value but offer a feeling of satiety, which temporarily alleviates hunger. According to the United States Department of Agriculture, participants can experience low food security, which is classified as reports of reduced quality, variety or desirability of diets, without necessarily presenting a reduction in food or energy intake (ODPHP, 2014). This relates to the definition of human resilience which is the individual's capacity to navigate resources necessary to live sustainably and positively, despite the circumstances (Ungar, 2019).

No association was found between dietary intake and resilience. This could be due to individuals having similar dietary patterns over long periods of time, which enabled them to maintain their resilience, despite their low income and the effects of prolonged exposure to

poverty. Owing to the long-term exposure to poverty in Fisantekraal (People in Need, 2019), it seems that resilience has manifested, as individuals have adapted and learned to live positively despite the various challenges that they face. They still manage to overcome difficulties due to their being in a constant state of poverty. This relates to the concept of positive deviance which is based on the principle that some solutions to prevent malnutrition already exist within communities and just need to be discovered. These solutions are usually much more sustainable than those that come from external sources (People in Need, 2019).

The results of this study in turn, raises questions about the sensitivity of the instruments used to assess food security. Perhaps food security instruments should include other measures, such as what was done to prevent hunger in the household and what was compromised to obtain sustenance and maintain a level of food security. The latter could be included in the resilience questionnaire as well, to understand what coping mechanisms were employed or used by individuals. The dichotomous classification used for food security should be broken down and should provide a more comprehensive view of individuals' livelihoods and dietary intake. The HHS does not sufficiently capture the elements of food security (adequate food availability, access to food, and appropriate food utilisation and stability) and should be utilised alongside a dietary intake quality questionnaire to better understand an individual's level of 'hunger' and food security. The HHS questionnaire should not be used as a standalone measure of food insecurity, but rather as a complementary questionnaire to measure aspects of food insecurity, while also measuring levels of extreme food insecurity, such as in emergency situations (Ballard *et al.*, 2011). The HHS is also only focused on the consumption behaviours of the participants and does not include diversity of food frequency unless coupled with other measures (Vhurumuku, 2014).

A statistically significant relationship was found between hunger score and dietary energy intake (kJ) ($x^2 = 6.081^2$; $p = 0.048$). These variables were assumed to be associated, as dietary

intake determines whether or not an individual will experience hunger. Hunger is also known to be a key indicator of food insecurity. A few studies have been conducted to establish an association between hunger score and dietary intake. Studies made use of the Dietary Diversity Scale (DDS) or the Food Consumption Score (FCS) instead of dietary energy intake (Hendriks, 2005). The DDS is a measure of food consumption and is used as a proxy for household access to a variety of foods and adequate nutrient intake (Mahmudiono *et al.*, 2020). The FCS is a score that is calculated using the household's dietary diversity, frequency of consumption of the different food groups and foods of nutritional importance (World Food Programme, 2019). A study was done by Belachew *et al.* (2013) with the aim of investigating the discrepancies in dietary diversity, the food variety score, and the frequency of animal-source food consumption among adolescents based on their food security status. Belachew *et al.* (2013) produced similar results to those of the current study, where their findings suggested that food insecurity has negative consequences for dietary intake among adolescents.

According to Sayed (2006), in the National Food Consumption Survey (NFCS) it was found that low dietary energy intake and low income were positively correlated with hunger. Dietary intake in the NFCS was assessed using a 24-hour recall questionnaire as well as a food frequency questionnaire, along with a procurement questionnaire on food purchasing and a modified hunger scale questionnaire. The NFCS found that households that were food insecure experienced an energy intake deficit and micronutrient deficiencies (Labadarios *et al.*, 2005). In other studies, food insecurity was not only found to be associated with dietary intake, but also with anthropometric measurements such as BMI and waist circumference (Leyna *et al.*, 2010), although these associations were not found in the current study. In this study, a correlation was found between hunger and dietary energy intake, from which one can infer that those who are food insecure lack the proper nutritional intake and most likely suffer from nutritional deficiencies (due to low-income status and possibly low dietary diversity). It is thus important that emphasis be placed not only on energy intake but also on the quality of

the diet being consumed in order to alleviate food insecurity.

The Nicholson McBride Resilience Questionnaire (NMRQ) indicated that 35.4% of the youth in this study reported having established resilience. Of the rest, 26.7% had strong resilience, 20% had exceptional resilience and less than 20% (17.9%) were developing resilience. There were associations between resilience and education, resilience and employment, and resilience and income. It is likely that individuals with higher levels of education, employment and income are more resilient than those who are less educated, are not employed and have a lower household income. Ciani and Romani (2014) showed that higher resilience (measured at one point in time) is equal to a higher household level of food security (measured at the same point in time). The empirical test results that validated the measurement proved that resilience is a good predictor of food insecurity (Ciani and Romani, 2014). They also found that food poverty is influenced by a household's resilience (Ciani and Romani, 2014).

It is important to have resilience as it is the ability to adapt and recover from adverse situations. Resilience, i.e., the ability to bounce back from setbacks, can help individuals cope with stress, overcome obstacles and achieve food security. Assessing the utility of measuring a concept like resilience in a community such as Fisantekraal, which has long been exposed to social ills and poverty, is crucial. It is also worth considering the potential impact of positive deviance within the community, when measuring resilience.

A study conducted on young adults aged 18–28 years reported that some of the participants ($n = 17$) achieved high scores on the NMRQ which indicated moderate or strong resilience, but many of the participants ($n = 62$) achieved very low scores, indicating poor resilience (Bhosale, 2022). The latter study focused on childhood trauma, with the aim of examining how adverse childhood experiences can affect individual resilience and psychological wellbeing in young adulthood (Bhosale, 2022). Another study was conducted on individuals

aged 20–25, aimed at studying the effects of personality on resilience in young adults, where the mean resilience scores were 42.68 and 43.08 for women and men respectively (Singh, 2020). No other studies conducted in South Africa have reported on youth resilience by using the NMRQ, and thus a better overall comparison could not be made.

The profile of Fisantekraal suggests that it is a low socio-economic community. The fact that the study revealed a relatively low prevalence of developing resilience in Fisantekraal is a positive finding. The same can be said for the low prevalence of hunger reported in the study. This relates back to the study by Sturgess (2016) which stated that food security should be used as a measure of resilience and resilience should be viewed as a process indicator. In such a context, it is reasonable to anticipate low levels of food insecurity where there is a relatively small proportion of participants with developing resilience.

The study participants were biased towards women and smaller households. This could be due to the high unemployment rate among women in Fisantekraal, as they were home during the day when the data collection was done. The Census 2011 demographic profile of Fisantekraal showed that approximately half (50.3%) of the population was classified as male, whereas 63.7% of the current study's participants were female. According to the Census 2011, the average household size in Fisantekraal was 3.3 (people), whereas the average household size of the current study's participants was 2 (people). Survey responses and non-response studies have shown that women are more likely to participate than men (Moore and Tarnai, 2002). There was a statistical association between gender and employment, with the majority of women (71.4%) being unemployed.

Gender effects are very context-specific and intersect with other dimensions of relative social position (Alba *et al.*, 2019). In this study, male respondents were more likely to be categorised as having established resilience rather than developing resilience. That said, other studies have

indicated that women are more resilient than men as they suffer more from mental health challenges under stressful livelihood conditions (Srivastava, 2012) and are still looked upon in the household as the primary caregiver. However, this study showed that women were less resilient than men. De la O Campos and Garner (2012) reported that during food shortages, women take on the responsibility of meeting the household's food needs and usually forego their meals in order to ensure that their family or household can eat. In this way, they frequently resort to unhealthy coping mechanisms which often have negative implications for their own nutritional intake (De la O Campos and Garner, 2012).

Although no statistical correlation was found between sex and resilience, or sex and hunger score, previous studies have found that households headed by women, who had higher levels of psychological empowerment and economic agency, were more likely to be food secure (Sharaunga *et al.*, 2016). Since the late 1990s, women have become the focus of strategies to tackle food insecurity (Pandya, 2008). The literature indicates that female-headed households may be at a higher risk of food insecurity, which is often attributed to women's lower entitlement and status within the household (Haile *et al.*, 2022). Women have increased responsibility in the household, and this is why they are more likely to be associated with unemployment and income disparities (Mtintsilana *et al.*, 2022). Visser and Wangu (2021) emphasise that women play a crucial role in sustaining food systems and ensuring food security and resilience. They recommend placing women at the core of food security solutions, where their resilience, knowledge and experiences can be leveraged.

Other factors that are known to influence food security are family size and dependency ratio (Sharaunga *et al.*, 2016; Ouoba and Sawadogo, 2022). In this study, living alone was found to be associated with food insecurity. It is known that the presence of many dependants puts pressure on financial resources as food needs to be procured. However, it is likely that in this case, a lack of support (meagre as it would be) to help procure food may lead to food insecurity

among those who live alone. This phenomenon (i.e., living alone) is expected to be more prevalent among young adults who are venturing out to create independent livelihoods for themselves (Garthwaite, 2012). The larger the household or family size, the more mouths there are to feed. This does not mean that a large household is directly associated with food insecurity, as having more individuals in the household may in fact contribute to greater food security (Sharaunga *et al.*, 2016).

It is therefore more important to look at the dependency ratio than just the number of individuals in the household, as was done in the current study. Those individuals who were living with others were found to have higher resilience than those who lived alone, although these results were found to be statistically insignificant ($\chi^2 = 6.142$; $p = 0.105$). This could be due to the support that individuals received from living with others, as social isolation is associated with negative emotional, cognitive and physical health outcomes (Ji *et al.*, 2022). There is a greater sense of security, in all respects, when living with others than when living alone. Furthermore, households headed by an individual who is older are known to be more food secure (Ouoba and Sawadogo, 2022). However, data on household heads were not collected as this dimension was not within the scope of the study.

According to the report released by the Southern Africa Labour and Development Research Unit (SALDRU), 33.3% of young people aged 15–24 were not in education, employment or training (NEET) in 2022 (Mudiriza and De Lannoy, 2023). Stats SA (2023) similarly reported that young NEETs aged 15–24 years stood at 36.1%. The Census 2011 showed that there was an unemployment rate of 27.27% among individuals aged 15–64 living in Fisantekraal and that the majority of those who were employed earned a minimum wage of between R1601 and R3200. The current study reported a higher rate of unemployment among youth (78.2%), with the majority of households reporting an average income of R3000 or less, which was similar to the data shown for Fisantekraal in the Census 2011, 10 years prior to this study.

Income has been identified as a major influencer of food security both in South Africa (Kirsten *et al.*, 2003) and internationally, as income impacts an individual's ability to access, provide and procure food (Sharaunga *et al.*, 2016; Ouoba and Sawadogo, 2022). The low matriculation rates reported in this study can be seen as having a direct influence on future employment opportunities and may impact individuals' income, which in turn is likely to affect their food security. The low matriculation rate is cause for concern and may lead to human potential not being optimised (Inglis, 2009). Youth are not aware of the alternative education or training opportunities, which is compounded by the lack of access to such opportunities and the infrastructure needed to avail themselves of such opportunities (Angelucci, 2021). It is thus important to understand the reasons why individuals are not completing their schooling or seeking alternative education or training pathways (Inglis, 2009).

Educational level and employment status determine an individual's earning power, relative to food security (Sharaunga *et al.*, 2016). The central tendencies of the two education groups (literate and illiterate) were measured, with resilience as the dependent variable. Four out of the five (80%) had completed Grade 7 and were thus categorised as literate, but only 26.3% of those categorised as literate had completed matric. It is worrisome that the proportion of matriculants among the young adults in the study appeared to be lower than the proportion of matriculants (31.8%) recorded in the Census 2011. The analysis revealed that there was a significant difference in resilience between the literate and illiterate. The data showed that those who were literate had a higher resilience score than those who were illiterate ($p = 0.004$). The Chi-square test that was done indicated that there was also a significant association between resilience and education ($\chi^2 = 9.693$; $p = 0.021$). The cross tabulation suggested a relationship between level of education and resilience, illustrating that literate individuals have a higher resilience than those who are illiterate. This implies that those who are more educated would exhibit more resilience, while those who are not educated would be less resilient to shocks pertaining to their food security.

Approximately 1 million youths in South Africa discontinue their education annually, after Grades 10 and 11, including those who do not pass Grade 12 (Mudiriza and De Lannoy, 2019). When young people drop out of school, the number of unskilled individuals rises and the unemployment problem worsens in South Africa. Nevertheless, gaining admission to tertiary institutions and obtaining qualifications do not necessarily lead to employment opportunities for South African youths, as evidenced by the growing number of jobless graduates (Graham et al., 2019). A study done by Rasmeni (2022) revealed that once young people leave school and their CSG stops, they no longer receive an allowance from their parents, which would have been used to buy food for themselves, thus affecting their nutritional intake and food security.

The higher literacy rate revealed in this study was relative to the low levels of food insecurity presented by the data, as Mthethwa and Wale (2021) assert that those who are more literate are less prone to be food insecure. The literature shows that education can contribute significantly to improved food security levels, illustrating a positive correlation with food security (Drimie and McLachlan, 2013). The higher the level of education, the more a household is able to adopt coping strategies against food insecurity (Ouoba and Sawadogo, 2022). Studies have also found that the literacy status of the household head significantly impacts the probability of increasing and decreasing food insecurity, thus influencing the household's resilience to food security shocks (Haile *et al.*, 2022; Kasie, 2017). Those with lower levels of education tend to have reduced resilience (Kasie, 2017). When the household head is literate, they are more likely to be food secure than those who are illiterate or uneducated. This is plausible considering the '*human capital theory*', which suggests that education is associated with productivity and efficiency in terms of income generation and decision-making (Becker, 1964; Ouoba and Sawadogo, 2022). Low household education is also found to be linked to lower income (Venning, 2021).

Although no significant association was found between employment and resilience, or between employment and household hunger, a significant association was found between income and resilience. It is important to note that employment was assessed at the individual level, while income was evaluated at the household level. The comparison of the level of resilience between the two income groups – those earning \leq R3000 and those earning \geq R3001 – indicated that those who earned \geq R3001 showed a higher resilience score, thus indicating a linear relationship between resilience and income. Income, in this study, was associated with individuals' level of resilience. Bene (2020) states that income is considered to be a part of resilience capacity, with income regarded as an input to the resilience process while resilience is regarded as the outcome. Sharaunga *et al.* (2016) found that food security is influenced by the level of income in the household, i.e., households with lower income experience greater food insecurity and are less able to adopt positive coping strategies (Venning, 2021).

No statistical association was found between resilience and those who received or did not receive grants, or between hunger score and those who received or did not receive grants, in the household. Numerous studies have reported the benefits of social grants and how they have reduced food insecurity and poverty levels (Satumba *et al.*, 2016; Steyn *et al.*, 2022). Despite the government's efforts to reduce poverty through grants, the grants fail to keep households out of poverty because individuals tend to use the money for non-food items and other non- necessities (Devereux and Waidler, 2017; Mtintsilana *et al.*, 2022). Additionally, South African social grants are not sufficient to completely alleviate hunger, especially with the high inflation rate. This is especially the case with food products, with the latter potentially costing more than the social grant. It has also been reported that many individuals feed off one social grant which is usually included in the total household income (Devereux and Waidler, 2017). In contrast to the literature, because of the low levels of reported hunger, the CSG and other grants could be helping to alleviate hunger and increase food security among

individuals in South Africa.

The LPI helps to assess and predict levels of poverty (Meyer and Keyser, 2016). The concept of basic needs is defined as *'fulfilment of minimum human needs regarding nutrition, health, basic services, education, also material needs such as shelter and clothing and non-material needs such as employment, participation and freedom of choice'* (Stewart, 1985). It is recommended that the LPI be used on a larger scale or on larger samples, such as entire communities, as it will produce a more accurate and powerful outcome, which in turn helps to generalise the population that was measured (Meyer and Keyser, 2016). The LPI was not appropriate for a population sample (n = 220) as small as the one presented in this study.

In Africa, the LPI scores increased from 1.16 in 2014 to 1.22 in 2018 across 33 countries on the continent, showing an increase of severe lived poverty (Mattes, 2020). In South Africa, the LPI has increased since 2015 and the country ranks 4th out of the 11 Southern African countries that experience moderate or high lived poverty, although high lived poverty is least common in the Western Cape where Fisantekraal is situated (Chingwete, 2019). By comparing the LPI scores for Africa and South Africa, it was assumed that the small town of Fisantekraal would present data indicating that most of individuals are deprived of basic necessities. However, the data suggested that the majority of individuals had the basic necessities and that the majority of them reported little to no hunger, thus indicating established resilience or a higher level of resilience. There was a statistical association between hunger score (food security) and question 1 (*'Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat?'*) and question 4 (*'Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food?'*) in the LPI. A study of the nutritional capabilities of NEETs, which was conducted in Langa, Cape Town, yielded results that also indicated a low level of hunger as well as satisfactory LPI scores among young adults aged 18–24 years. This indicated that

the questions asked as part of the LPI had an association with the hunger score and that there was an overlap in the questionnaires (Rasmeni, 2022).

It was previously shown that food security cannot be achieved without elements of stability in the access to, availability of and quality of food, and that this type of stability can be linked to resilience (Bene, 2020). This illustrates that there is a need for a more dynamic measurement tool or technique with which to interpret food (in)security and its context. Resilience was initially measured as a part of food security, but in the current study it was measured as a predictor of food security. It is still quite difficult to quantify which tangible and intangible elements of resilience are important for determining resilience capacities, and under what conditions they become important (Ansah *et al.*, 2019). It would also be valuable to measure the extent of shock experienced by individuals that impacts their level of resilience.

Agency seems to play an important role in the relationship between food security and resilience and can be seen as a bridge between the two variables. In the context of resilience, agency refers to an individual's capacity to take action and make choices that will enable them to cope with, adapt to or recover from adverse events or circumstances (Brown and Westaway, 2011). This may include actions such as seeking social support, accessing resources or services, or developing new skills or knowledge (Masten, 2018). In the context of food security, agency refers to an individual's ability to access and choose the foods they consume, as well as to participate in decision-making processes that affect their food system (HLPE, 2020). This may include actions such as growing their own food, participating in community food initiatives or advocating for policies that support equitable access to healthy foods (Harris-Fry *et al.*, 2015). In both cases, agency is an important factor in promoting resilience and food security, as it allows individuals to take an active role in shaping their own lives and communities. By empowering individuals to make informed choices and take action to

address their needs and priorities, agency can help to build stronger, more resilient communities that are better able to navigate the challenges of a changing world.

The lack of significance reported in the other tests could perhaps be because resilience was measured at an individual level and not at a household level, as was the case with the household score. A comparison of tools that do not measure variables in the same way can result in inconsistencies and/or the unreliability of results.

Strengths and limitations

The HHS used to assess food security only has three items where questions are directed at the individual. It is thus limited to testing only the most severe food insecurity experiences. Owing to the limitations of this questionnaire, one cannot correctly deduce that all the individuals in the current study experienced little to no hunger. The questionnaire is better suited for cross-country or context comparisons as well as for capturing universal experiences of lack of food (Leroy *et al.*, 2015). The HHS is known to be used along with the DDS or FCS instead of for dietary energy intake. This could also have impacted the study sample by not providing a more holistic view of individuals' caloric intake. A more robust tool should have been used as well as a resilience tool focusing on food security and vulnerability. The HHS and resilience questionnaire both call for self-reported perceptions and are often misreported in data collection. The NMRQ questionnaire provides limited results on individuals' resilience in terms of food security. It is also important to note that the reliability of self-reported assessments, based on experience, is subject to misreporting and such assessments should be interpreted carefully (Hendriks, 2005; Regassa and Stoecker, 2011).

Other instruments used to assess food security included dietary diversity and household calorie adequacy. These instruments hardly looked at food utilisation and stability, which are known to be fundamental to the definition of food security. Food security measures need to

include what is being measured and how it is measured. Most of the food security measures do not measure all the dimensions of food security; thus, no single best measure has yet been found. An ideal food security measure should capture all four dimensions (Manikas *et al.*, 2023). Alternative food security measures that could have been employed in this study are the Household Food Insecurity Scale (HFIAS) which looks at a mixture of sufficiency and psychological factors, the Coping Strategy Index (CSI) which captures the elements of quantity or sufficiency, the Household Dietary Diversity Scale (HDDS) which captures diversity and frequency along with quality, and the Food Consumption Score which looks at quality, quantity and diversity (Vhurumuku, 2014). These different tools also measure food security at either household or individual level. The tools need to be evaluated and best practices from each need to be combined to give an overall food security classification (Vhurumuku, 2014).

Not too many other studies were identified that have probed youth resilience in South Africa. This then makes this study a valuable addition to the existing literature and highlights its contribution to the broader understanding of resilience factors in this specific population. Another strength of this study is that it found an association between income and resilience, and between education and resilience. It was also found that there is a direct association between hunger score and dietary intake, and between hunger score and LPI questions 1 and 4. A more quantitative approach with open-ended questions can be used, along with qualitative methods, to remove some of the biases and allow individuals to voice their concerns, providing context to their behaviours and allowing them to be more *'heard'*. In future, it could be valuable to do this using a multi-level approach to see the changes and differences in different communities within a South African context. A comparative analysis could be done to establish the changes that might have occurred post-pandemic among the same individuals. One of the main questions that came to mind during this study was *'Are*

youth reliable reporters in their household and/or are they a representation of the household's food security?' In future studies, more individuals in the household should be included to answer the research questions so as to triangulate the data, to provide nuances and lived experience comparisons of the youth in the household, and to generate more robust data to better explore the relationship between and experience of food security and resilience.

Although no direct statistical association or significance was found between food security and resilience in this study, it is worthwhile to test the theory again in future, using more robust questionnaires and tools. There may also be additional factors to be assessed along with those that featured in this study, such as cultural factors or external shocks, which would help to deliver a more holistic view. This study focused specifically on the association between food security and resilience, overlooking other potential factors that might contribute to community resilience. This narrow focus may omit important variables that could potentially influence the relationship and, if applied, may provide a more comprehensive understanding of resilience dynamics. However, this study was just a stepping stone towards arriving at a better understanding of resilience and its association with food security.

This study's data could not be directly compared to that of other studies due to the dearth of relevant studies conducted within the South African context. The research tools might also have impacted the results, and could have been applied in a different manner. In conclusion, the data suggest that food security is not directly associated with resilience but that the variables associated with each one have a relationship with one another, i.e., if someone is more food secure, they are known to be more resilient, and vice versa.

The FAO states: *'Resilience is defined as the ability to prevent disasters and crises as well as to anticipate, absorb, accommodate or recover from them in a timely, efficient and sustainable manner. This includes protecting, restoring and improving livelihoods systems in the face of*

threats that impact agriculture, nutrition, food security and food safety' (FAO, 2023). Food security and resilience are related, or influence each other in similar ways, and can be integrated with one another.

This study set out to explore the association between food security and resilience among the youth aged 18–24 in Fisantekraal, Cape Town, South Africa. This chapter provides the overall conclusions drawn from the findings as well as some recommendations. There was no direct association between food security and resilience, but other factors, such as income and education, were shown to be associated with resilience. One can deduce from the literature review that resilience is associated with food security (Ansah *et al.*, 2019; Haile *et al.*, 2022), although the results from this study showed no association between food security and resilience.

Resilience is a concept that varies across disciplines, which makes it difficult to advance the concept in an informed, scientific way. Some studies claim to have measured resilience, but they do not give a clear definition of resilience. This thesis recognises that arriving at a proper understanding of food insecurity requires input from multiple disciplines.

The results from this study were unique in that they did not match the results of other studies. The lack of studies conducted in the South African context made it difficult to directly compare this study's data with other studies' data. This study's data suggest that food security is not associated with resilience, but that the variables associated with each one have an indirect relationship with each other.

The main limitation of the resilience measure and questionnaire is that it cannot be measured in a tangible way and cannot be directly observed. The same applies to food (in)security (Ansah *et al.*, 2019; Bene, 2020). The measure is reliant on self-reporting by participants, who can be prone to bias or inaccuracy. Individuals may not accurately remember or understand

the questions being asked, or they may intentionally or unintentionally provide socially desirable answers (Althubaiti, 2016). Additionally, structured questionnaires, such as the HHS and the resilience questionnaire, may not capture individuals' thoughts, feelings or behaviours. Furthermore, questionnaires may not be appropriate for all populations, such as those with low levels of literacy, which may affect the representativeness of the sample.

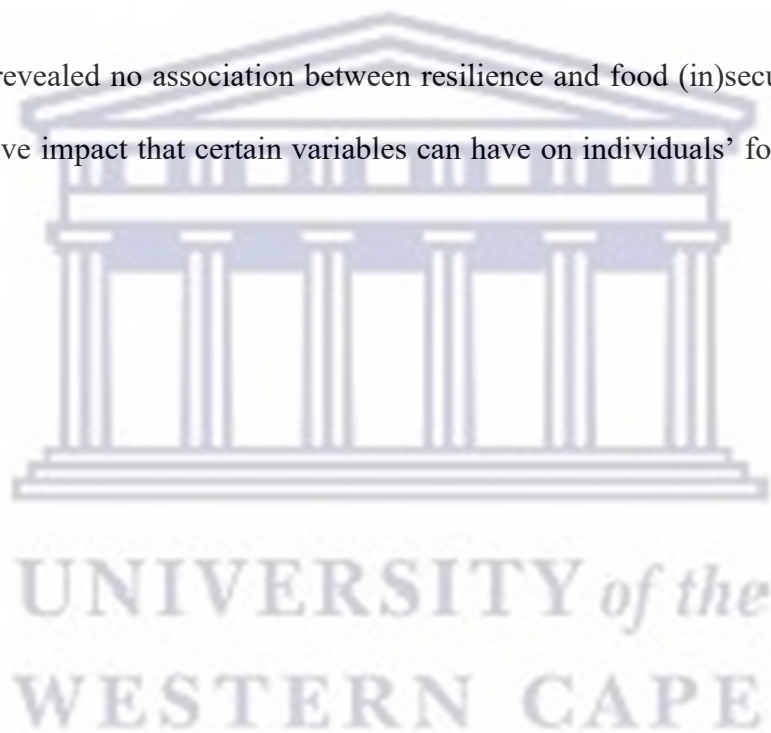
Resilience in terms of food security is receiving increased attention, as it could provide valuable insights for measuring and intervening in individuals', households' and communities' resilience and food (in)security (Hendriks, 2015). There needs to be a shift from focusing only on food (in)security (or malnutrition), to measuring and including resilience. This will allow more emphasis to be placed on the 'other' factors that might influence individuals' resilience and, in turn, their food security (Lokosang *et al.*, 2016). As discussed in this study, there are other variables that impact individuals' food security, such as income, education, employment and gender roles in households. By focusing on resilience and other variables, such as income, employment and education, allowance is made for a safety net for future shocks and stressors.

Resilience is a developmental strategy rather than the usual relief and rehabilitation strategy and needs to feature at all stages of research and implementation, not just at the policy level. Although this study focused on the individual level, policy and planning facilitates the enhancement of individual decision-making as it filters down to community level, thus leading to increased effectiveness of the public sector and promoting public accountability and learning (Capano and Woo, 2016).

Measuring the impact of policies on food security and resilience can be very beneficial for future policy design. This also overcomes the problem of the dichotomy of policies that usually focus only on emergency or development (Ciani and Romani, 2014). A resilience-based policy design will help to shift policies to include management of shocks and the ability

of systems to cope with, adapt to and shape change, rather than just follow a one-size-fits-all approach (Ciani and Romano, 2014). Policymakers and further research should address low dietary energy intake and income disparities among adolescents, as they are linked to hunger and nutritional deficiencies. To improve adolescents' nutritional status, comprehensive assessment tools should be used, and programmes promoting food security, nutritional education and affordable, nutritious food options should be implemented. Additionally, policymakers should consider the long-term health impacts of inadequate nutrition during adolescence.

Although this study revealed no association between resilience and food (in)security, it has highlighted the positive impact that certain variables can have on individuals' food security status and resilience.



Chapter 7: References

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Appendices

Appendix A: Ethics approval for primary study (Nutrition capabilities of the youth).

Appendix B: Ethics approval for current (secondary) study.

Appendix C: Nutrition capabilities of the youth study questionnaire.

Appendix D: Letter of permission to do secondary data analyses on existing data.





UNIVERSITY *of the*
WESTERN CAPE

19 April 2019

Prof R Swart, Prof C Schenck and Prof E Kunneke
Dietetics and Nutrition
Faculty of Community and Health Sciences

Ethics Reference Number: BM19/3/4

Project Title: Nutrition capabilities of the youth.

Approval Period: 17 April 2019 – 17 April 2020

I hereby certify that the Biomedical Science Research Ethics Committee of the University of the Western Cape approved the scientific methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

The permission to conduct the study must be submitted to BMREC for record keeping.

Please remember to submit a progress report in good time for annual renewal.

The Committee must be informed of any serious adverse event and/or termination of the study.



*Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape*



UNIVERSITY of the
WESTERN CAPE



14 January 2021

Mrs A Petersen
Dietetics and Nutrition
Faculty of Community and Health Sciences

Ethics Reference Number: HS 20/10/6

Project Title: Exploring food security and resilience among
youth aged 18-24 in Fisantekraal, South Africa

Approval Period: 26 November 2020 – 26 November 2023

I hereby certify that the Humanities and Social Science Research Ethics Committee of the University of the Western Cape approved the methodology and ethics of the above mentioned research project.

Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report by 30 November each year for the duration of the project.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Director: Research Development
University of the Western Cape
Private Bag X 17
Bellville 7535
Republic of South Africa
Tel: +27 21 959 4111
Email: research-ethics@uwc.ac.za

NHREC Registration Number: HSSREC-130416-049



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E-mail: rswart@uwc.ac.za

INFORMATION SHEET

Project Title: Nutritional capabilities of the youth

What is this study about?

This is a research project being conducted by Prof Rina Swart at the University of the Western Cape. We are inviting you to participate in this research project because you are a young adult in the age group 18-25 years and living in Fisantekraal. The purpose of this research project is to assess the food and nutrition situation and to understand the nutrition capabilities of youth (aged 18-25 years of age) who are not engaged in employment, education or training (NEETs).

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

You will be asked to answer some questions which will take about 40 minutes. You will be asked to:

- answer general questions on your household and the resources in your household
- tell us about the food and beverages you consumed on the previous day
- allow us to weigh you and to measure your height
- answer some questions on the types of food you usually purchase and the places where you purchase it from

We will also invite some of you to participate in a 30 minute to an hour group discussion with about 6-8 other young adults where we will talk about the food situation in your community, and how you decide on what food to eat as well as what you think is necessary to make healthy food choices.

Would my participation in this study be kept confidential?

The researchers undertake to protect your identity and the nature of your contribution. To ensure your anonymity, we will place a code on the forms so that we can link the different forms of one individual to each other, but your name will not be recorded on these forms.

To ensure your confidentiality, all paper copies of questionnaires will be stored in a locked cabinet, the consent form (with your name) cannot be linked to the code on the forms, and the computerised information will be stored using password-protected computer files.

If we write a report or article about this research project, your identity will be protected.

This study will use focus groups therefore the extent to which your identity will remain confidential is dependent on participants' in the Focus Group maintaining confidentiality.

What are the risks of this research?

There may be some risks from participating in this research study.

All human interactions and talking about self or others carry some amount of risks. We will nevertheless minimise such risks and act promptly to assist you if you experience any discomfort, psychological or otherwise during the process of your participation in this study. Where necessary, an appropriate referral will be made to a suitable professional for further assistance or intervention.

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 the nutrition situation in Fisantekraal. We hope that, in the future, other people might benefit from this study through improved understanding of the nutrition situation and nutritional capabilities of youth. We hope to inform policies that may help ensure healthy food environments for all.

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.

What if I have questions?

This research is being conducted by *Prof Rina Swart from the Department of Dietetics and Nutrition* at the University of the Western Cape. If you have any questions about the research study itself, please contact Prof Rina Swart at 0834824113 or rswart@uwc.ac.za.

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:

Prof Ernesta Kunneke
Head of Department: Dietetics and Nutrition
University of the Western Cape
Private Bag X17
Bellville 7535
ekunneke@uwc.ac.za

Prof Anthea Rhoda
Dean: Faculty of Community and Health Sciences
University of the Western Cape
Private Bag X17
Bellville 7535
chs-deansoffice@uwc.ac.za

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

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REFERENCE NUMBER: BMREC XXXXX





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IPHEPHA ELICHAZA UKUBA OLUPHANDO LUNGANTONI NA

Isihloko sophando: ULWAZI OLUPHANGALELEYO KULUTSHA MALUNGA NOKONDLEKA

Ingaba Oluphando Lungantoni na?

Oluphando luqhutywa ngu Njingalwazi uRina Swart kwicandela lesikolo lezempilo lolunto elikwi dyuniversity yase Ntshona koloni. Simema wena ukuba uthabathe inxaxheba koluphando kuba ungumntu omtsha oneminyaka ephakathi ko 18-25 ohlala eFisantekraal. Injongo yoluphando kukuvavanya imeko yokutya nokondleka nokuzama ukuqonda ulwazi oluphangaleleyo kulutsha malunga nokondleka (iminyaka 18-25) olungaphangeliyo, olungafundiyo, nakunye nolunga qeqeshwanga.

Ingaba kuzocelwa ndenze ntoni na ukuba ndiyavuma ukuba yinxalenye yoluphando?

Uzakubuzwa imibuzo ezakuthatha ixesha eliqikelewa kwimizuzu engama 40. Uzakubuzwa ukuba:

- Uphendule imibuzo ngokubanzi malunga nekhaya lakho ne
- Sixelele ngokutya okutyileyo kunye neziselo othe wazisela ngezolo
- Usivumele sikuhlolwe ubunzima bakho nobude bakho
- Uphendule neminye imibuzo malunga nokutya ovame ukukuthenga nendawo apho ukuthenga khona

Sizakucela ukuba uthathe inxaxheba kwingxoxo yeqela elincinci ezakuthatha imizuzuz engama 30-1 yure. Lengxoxo iqulatha abantu abatsha aba 6-8 apho bazakushukuxa imeko yokutya yase kuhlaleni, nokuba bazithatha njani izigqibo zokuba batye okuphi ukutya nokuba bacinga yiyntoni efunekayo ukuze bakhethe ukutya okunesondlo.

Ukuba ndithabathe inxaxheba koluphando kuzakugcinwa kuyimfihlo?

Abantu abenza oluphando bayathembisa ukuba bazakuzikhusela inkcukacha zakho kwaye nezinto ozakuthi uzichaze okanye uzithethe. Ukuqinisekisa ukuba inkcukacha zakho zizoba yimfihlelo, Igama lakho alizokufakwa kweliphepha oluphando kunye nezinye impepha zethu; kuzobhalwa inombolo endaweni yegama lakho kumaphepha okulinganisa. Sizokwenza irekhodi yengxoxo yeqela elincinci oyingxalenye nayo kodwa igama lakho nobuwena abazokuvezwa kwi rekhodi leyo. Ezirekhodi zizovalelwa kwi khabhodho zivuleleke kum'phandi yedwa.

Bonke abathathi'nxaxheba kumaqelana amancinci azobe evumile ukuba inkcukacha zomntu ezithwe zavela kwingxoxo azisayi kuvela nakubani na ngaphandle kweliqela futhi zizohlala ziyimfihlo.

Ngokomthetho kunye nangezinga lokujonga izinto ngendlela elungileyo, siyakuthi sizichaza izinto esithe sadibana nazo ezifana nokuhlukunyezwa kwabantwana, okanye ukungahoyeki ngendlela eyiyo okanye umntu esimbona ukuba angakwazi ukuzihlukumeza okanye akwazi ukuhlukumeza abanye abantu. Ukuba kuye kwanjalo, siyakuthi sophule isivumelwano sethu sokugcina imfihlelo siyokuchaza kubantu abasemthethweni ngalento siyibonileyo okanye siyifumanisileyo.

Bobuphi ubungozi obukhoyo ngoluphando?

Kungakhona umngcipheko kubathathi-nxaxheba boluphando. Konke ukuxhulumana kwabantu nokuthetha-thethana kwabo kunye nolwabelokwembono kunako ingxaki okuhamba nako. Kodwa sizokunciphisa ezongxaki futhi sikuncede ukuba uzive ukhululekile emzimbeni nasegqondweni ngalolonke ixesha sizobe siqhuba uphando. Xa kunyanzelekile, isaziso esifanelekileyo sizosenza kubantu bomthetho okanye karhulumente ngoncedo kwelocandelo elo ingabe lixanduva kulo ukuze babeluncedo.

Yeyiphi inzuzo ekhoyo koluphando?

Oluphando elenzelwanga kunceda wena uwedwa, kodwa iziphumo zophando zinganceda umphandi ukuba afunde banzi nanzulu ngesimo sokondleka e Fisantekraal. Siyathemba ukuba nabanye abantu bangafunda banzi ngesimo sokondleka kwakunye nolwazi oluphangaleleyo malunga nokondleka kolutsha. Siyathemba ukuba singakwazi ukwazisa inqubo eziqinisekisa ukuba wonke ubani ukwi meko elungiyiyo malunga nokutya okune sondlo.

Ingaba ndinyanzelekile ukuba ndibe-koluphando kwaye ingaba ndingakwazi ukuyeka xa ndifuna?

Ingaxheba yakho koluphando ayinanyanzelo. Ukuba ukhethe ukuthatha inxaxheba koluphando, ungayeka nanini-na. Ukuba ukhethe ukungathathi nxaxheba koluphando okanye uyeke phakathi ungekagqibi, awusoze wohlwaywe okanye uhluthwe inzuzo ebekumele uyifumene .

Ukuba ndinayo imibuzo?

Oluphando lwenziwa ngu *Prof Rina Swart Kwi candelo lakwa Dietetics and Nutrition* Kwi University of the Western Cape. Ukuba unemibuzo malunga noluphando, nceda uthethe no Prof Rina Swart at: Private Bag X 17, Bellville 7535, Western Cape, South Africa, codes): +27-0834824113.

Ukuba uthe wanemibuzo ngoluphando okanye ufuna ukwazi amalungelo akho njengemntu othatha inxaxheba koluphando okanye ufuna ukwazisa ngengxaki ethe yakuvelela ngokuthatha inxaxheba kwakho koluphando, nceda ugqagamishele nababantu balandelayo:

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Oluphando lupasiswe sisigqeba sekomiti yophando lYunivesithi yaseNtshona Koloni kunye nekomiti yezemigomo Biomedical.

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INLIGTINGSTUK

Projek Titel: Voedings vermoëns van die jeug

Wat is die doel van die studie?

Hierdie studie word gedoen deur Prof Rina Swart van die Universiteit van Wes-Kaapland. Jy word uitgenooi om deel te neem aan die navorsingsprojek omdat jy 'n jong volwassene in die ouderdomsgroep 18-25 jaar is en in Fisantekraal woon. Die doel van die navorsingsprojek is om die kos en voeding situasie te bepaal en om die voedings vermoëns van die jeug (18-25 jaar) wie werkloos is en nie besig is met opleiding nie, te bepaal.

Wat sal van my verwag word as ek instem om deel te neem?

Jy sal gevra word om vrae te beantwoord wat ongeveer 40 minute lank sal neem. Jy sal gevra word om:

- algemene vrae oor jou huishouding en die hulpbronne in jou huishouding te beantwoord
- ons te vertel van die kos en drinkgoed wat jy gister ingeneem het
- ons toe te laat om jou te weeg en jou lengte te meet
- vrae te antwoord oor die kos wat julle koop asook die plekke waar julle die kosaankope doen

Ons sal ook sommige van julle uitnoui om saam met 6-8 ander jong mense deel te neem aan 'n 30 minute tot 'n uur lange groepsbespreking waar ons gaan gesels oor die kossituasie in jou gemeenskap, hoe julle besluit wat om te eet, en wat nodig is om gesond te eet.

Sal jou deelname aan die studie en jou inligting vertroulik wees?

Die navorsers onderneem om jou identiteit te beskerm en inligting wat jy deel vertroulik te hou. Om jou identiteit te beskerm sal ons 'n kode op vraelyste plaas sodat ons inligting van die verskillende vorms aan mekaar kan koppel, maar jou naam sal nie op die vorms verskyn nie. Om vertroulikheid te verseker sal alle vraelyste in 'n kabinet toegesluit word. Net die navorser sal toegang tot die sleutel hê. Die toestemmings vorm waarop jou naam verskyn kan nie met die vraelyste met kodes gekoppel word nie aangesien die kode nie op die toestemmings vorm verskyn nie. Elektroniese inligting sal slegs met spesiale kodewoorde ontsluit kan word. Wanneer ons 'n verslag of 'n artikel oor die navorsing skryf, sal jou identiteit nie verklaar word nie.

Hierdie projek sal ook groepsbesprekings insluit. Die beskerming van jou identiteit binne die groep bespreking sal afhang van die ander deelnemers in die groep om vertroulikheid te behou.

Wat is die risiko's verbode aan die navorsing?

Enige navorsing het 'n mate van risiko. Menslike interaksie en om te praat oor jouself en ander kan ongemak veroorsaak. Die navorsers sal probeer om die risiko sover moontlik te verminder. Indien jy enige ongemak (sielkundig of andersins) ervaar, sal ons jou ondersteun en indien nodig ook reël dat 'n gekwalifiseerde professionele persoon jou ondersteun.

Watter voordele hou die navorsing in?

Die navorsingsprojek is nie ontwerp om jou persoonlik te help nie, maar dit sal die navorsers van inligting voorsien oor die voedingsbehoefes in die gemeenskap van Fisantekraal. Ons hoop dat hierdie inligting in die toekoms sal help om 'n beter voedsel omgewing vir die gemeenskap te skep.

Moet ek aan die navorsing deelneem en mag ek my deelname stop?

Deelname aan die projek is totaal vrywillig. Jy mag kies om nie deel te neem nie. Sou jy deelneem, mag jy ook kies om op te hou sonder om enige verduideliking te verskaf. Indien jy kies om nie deel te neem nie of om op te hou, sal dit jou nie nadelig beïnvloed nie.

Wat maak ek as ek vrae het?

Hierdie navorsing word gedoen deur *Prof Rina Swart van die Department Dieetkunde en Voeding* aan die Universiteit van die Wes-Kaapland. Indien jy enige vrae het oor die studie, kontak Prof Rina Swart telefonies by 0834824113 of per epos rswart@uwc.ac.za.

Indien jy enige vrae het oor die studie en jou regte as deelnemer, of indien jy enige probleem met die studie ondervind, kontak asseblief:

Prof Ernesta Kunneke
Departementshoof: Dieetkunde en Voeding
Universiteit van Wes-Kaapland
Privaatsak X17
Bellville 7535
ekunneke@uwc.ac.za

Prof Anthea Rhoda
Dekaan: Fakulteit van Gemeenskap en Gesondheids Dienste
Universiteit van Wes-Kaapland
Privaatsak X17
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chs-deansoffice@uwc.ac.za

Hierdie navorsing is goedgekeur deur die Universiteit van Wes-Kaapland se Biomediese Navorsingsetiekkomitee.

Biomediese Navorsingsetiekkomitee
Universiteit van Wes-Kaapland
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VERWYSINGS NOMMER: (BMREC XXXXX)



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CONSENT FORM

Title of Research Project: Nutrition capabilities of the youth

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

During the focus group discussion the conversation will be audiotaped.

I agree to be [audiotaped] during my participation in this study.

I do not agree to be [audiotaped] during my participation in this study.

Participant's name.....

Participant's signature.....

Date.....

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IPHEPHA MVUME LOKWENZA UPHANDO

IsihlokoSophando: FISANTEKRAAL

ULWAZI OLUPHANGALELEYO KULUTSHA MALUNGA NOKONDLEKA

Oluphando lucaciswe kum ngo lwimi endilaziyo nendiluvayo. Imibuzo yam ngoluphando iphendulwe kum. Ndiyaqonda ngokuthatha inxaxheba kwam futhi ndiyavuma ukuthatha inxaxheba ngaphandle kwengcinezelo. Ndiyaqonda ukuba ubumna bam ne ncukacha zam azizokwaziswa'mntu. Ndiyaqonda ndingarhoxisa inxaxheba yam koluphando nanini xa ndifuna ngaphandle kokunika isizathu okanye ukoyika iziphumo ezimbi okanye ukulahlekelwa yinzuzo. Ndiyaqonda ukuba iaudio-recordings zengxoxo ndizokuzinikwa xa ndithe ndazifuna.

Ngexesha lokuxubusha kwengxoxo yeqela incoko iya kuhanjiswa.

___ Ndiya vuma ukuba kunga shicilelwa intethi yelizwi lam, umfanekiso wam kunye nevidiyo ngethuba ndithatha inxaxheba kolu phando.

___ Andivumi ukuba kungashicilelwa intetho yam, umfanekiso wam kunye nevidiyo ngethuba ndithatha inxaxheba kolu phando

Igama lomthathi'nxaxheba.....

Umsayino womthathi'nxaxheba.....

Umhla.....

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TOESTEMMINGS VORM

Titel van die Navorsings Projek: Voeding vermoëns van die jeug

Die study is aan my verduidelik in 'n taal wat ek verstaan. My vrae omtrent die studie is beantwoord. Ek verstaan wat my deelname behels en ek stem vrywillig en uit eie keuse daartoe in om deel te neem. Ek vertaan dat my identiteit nie aan enigiemand beken gemaak sal word nie. Ek verstaan ook dat ek te enige tyd van die studie mag onttrek sonder om 'n rede te verskaf en sonder enige nadelige nagevolge of die verlies van enige voorregte.

Tydens die fokus groep bespreking sal klankopnames gemaak word.

___ Ek stem in tot [klank opnames] tydens my deelname aan die studie

___ Ek stem NIE in tot [klank opnames] tydens my deelname aan die studie.

Naam van deelnemer

Handtekening van deelnemer.....

Datum.....

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FISANTEKRAAL: NUTRITION CAPABILITIES OF YOUTH

HOUSEHOLD QUESTIONNAIRE

dateint	Date of interview	DD / MM / YY <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>			
teamid	Team identifier	<input type="text"/> <input type="text"/>	intid	Interviewer identifier	<input type="text"/> <input type="text"/>
ctryid	Country	01. South Africa			<input type="text"/> <input type="text"/>
eaaid	Area identifier	07 Fisantekraal			<input type="text"/> <input type="text"/>
hh	Household identifier	<input type="text"/> <input type="text"/>	GPS	GPS coordinates	

Hello, my name is _____. I work for the UWC. We are interested in learning about your family, your household environment and food in your house if there is a person aged 18-25 years living in this household. Who is the person in your household who is most knowledgeable about purchasing and preparing most of the food for your family? For example, we would like to know how often you usefully eat the different types of food items. May we speak to this person?
(Do not interview a household member <18 years of age.)

If this person is available:

- *Share the information sheet with this person and ask him/her to complete the Consent Form. Complete the Household Questionnaire. Explain that you would also like to speak to the person aged 18-25 years about what they ate the day before, and measure the weight and height of this person. Complete the consent forms for this person. Do not interview anybody younger than 18 years. Complete the 24 hr recall / Anthropometric measurements.*

If this person is not available:

- *Schedule a second visit to return to complete the Household Questionnaire when the person knowledgeable about food in the household and the 18-25 year old person is available.*

On the second visit:

- *If the person knowledgeable about food is available, ask him/her to complete Consent Form and Household Questionnaire. If that person is not available, ask the next most knowledgeable person. Share the information sheet and ask him/her to complete Consent Form and the Household Questionnaire;*
- *Explain that you would also like to speak to one individual aged 18-25 years old about what they ate the day before, and measure the weight and height of this person. Complete the consent forms for this person. Do not interview anybody younger than 18 years. Complete the 24 hr recall / Anthropometric measurements.*

Cons	Written consent obtained?	Yes.....1 No.....2	If yes , begin If no , end
visitno	Number of attempts to visit household (up to one return visit) <i>Record at the time of completing the interview or after second household visit</i>		<input type="text"/>
outhh	Outcome of HH questionnaire <i>Fill in only after questionnaire has been completed for this household.</i>	Completed.....1 Refused.....2 No household member at home or no adult respondent at home at time of visit(s).....3 Household member incapacitated or intoxicated.....4 Other: .....99	If 3 or 4, return later for a second visit.
	Supervisor check		Initial for yes _____

HOUSEHOLD ROSTER

Now we would like some information about persons who usually stay in your household. This will include anybody who sleeps in this household for at least 4 nights of the week and eats from the same pot of food.
Start by listing the head of the household.

Line number	A. Name or initial of person	B. Sex	C. Age (in years OR months).		D. Currently attending school or college?	E. Highest educational level (grade) completed. Enter the grade nr mentioned.
			Years (Record in years if >5 years)	Months (Record in months if <60 months)		
01	Head of Household	M / F	<input type="text"/> <input type="text"/>		Yes.....1 No.....2	
02		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No..... 2	
03		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No.....2	
04		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No..... 2	
05		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No.....2	
06		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No..... 2	
07		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No.....2	
08		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No..... 2	
09		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No.....2	
10		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No..... 2	
11		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No.....2	
12		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Yes.....1 No..... 2	

hh1a	<i>Just to make sure that I have a complete listing: Are there any other persons such as small children or infants that we have not listed? If YES, add name to table.</i>	
hh1b	<i>Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here and share the same pot of food for at least 4 days of the week? If YES, add name to table.</i>	
<i>ote: Add a new page if more people in the household</i>		
Lnr	Line number of respondent (WRITE IN THE NUMBER FROM THE HOUSEHOLD ROSTER)	<input type="text"/> <input type="text"/>

Check the roster regarding completion!

SHORT BIRTH HISTORY			
N°	QUESTIONS	ANSWERS	SKIPS
bh1	<p>Altogether, how many live births have there been in your household in the last 5 years? Please include any baby who cried or showed other signs of life.</p> <p>(WRITE IN THE NUMBER.)</p> <p>(IF 'NONE', RECORD 00. IF 'DON'T KNOW', RECORD 88.)</p>	<input type="text"/> <input type="text"/>	If 00 or 88 , skip to household characteristic s module.
bh2	<p>Is this child / are these children still alive?</p> <p>(CIRCLE ONLY ONE ANSWER.)</p>	<p>All alive.....1</p> <p>One or more has died in the past 5 years.....2</p> <p>Don't know.....88</p>	

UNIQUE IDENTIFYER NUMBER

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HOUSEHOLD CHARACTERISTICS			
N°	QUESTIONS	ANSWERS	SKIP S
hc1	Does your household have electricity? (CIRCLE ONLY ONE ANSWER.)	Yes.....1 No.....2	
hc2	What fuel does your household mainly use for cooking? (CIRCLE ONLY ONE ANSWER.)	Electricity.....1 LPG.....2 Natural gas.....3 Biogas.....4 Kerosene / Parafin.....5 Coal / Lignite.....6 Candles.....7 Firewood.....8 Straw / Shrubs / Grass.....9 Animal dung.....10 Sun/solar cooker.....11 No food cooked in household.....12 Don't know.....88 Other: .....99	
hc3	Does your household or anyone in the household have ... ? (PROMPT FOR EACH ITEM; RECORD ALL ITEMS IN THE HOUSEHOLD.) (CIRCLE ONLY ONE ANSWER FOR EACH ITEM.)	A. Radio (other than a car radio) Yes.....1 No.....2 B. Television Yes.....1 No.....2 C. DVD player Yes.....1 No.....2 D. MNet-DSTV / Multi-TV (Ghana) subscription Yes.....1 No.....2 E. Air conditioner Yes.....1 No.....2 F. Computer / desktop / laptop Yes.....1 No.....2 G. Vacuum cleaner / floor polisher Yes.....1 No.....2 H. Dishwashing machine Yes.....1 No.....2 I. Tumble dryer Yes.....1 No.....2 J. Home telephone (landline) Yes.....1 No.....2 K. Deep freezer Yes.....1 No.....2 L. Refrigerator / combined fridge/freezer Yes.....1 No.....2	

	<p>Does your household or anyone in the household have ... ?</p> <p>(PROMPT FOR EACH ITEM; RECORD ALL ITEMS IN THE HOUSEHOLD.)</p> <p>(CIRCLE ONLY <u>ONE</u> ANSWER FOR EACH ITEM.)</p>	<p>M. Cooking stove (electric) Yes.....1 No.....2</p> <p>N. Cooking stove (gas) Yes.....1 No.....2</p> <p>O. Microwave oven Yes.....1 No.....2</p> <p>P. Built-in kitchen sink Yes.....1 No.....2</p> <p>Q. Home security system Yes.....1 No.....2</p> <p>R. Home theatre system Yes.....1 No.....2</p> <p>S. Bicycle or tricycle Yes.....1 No.....2</p> <p>T. Motorcycle, scooter, trike, car, truck, jeep, or tractor Yes.....1 No.....2</p> <p>V. Animal-drawn cart Yes.....1 No.....2</p> <p>W. Domestic worker /house help Yes .....1 No.....2</p> <p>X. Hot water running from a geyser Yes.....1 o.....2</p> <p>Y. Cell phone Yes.....1 No.....2</p> <p>Z. 2 cell phones in household Yes.....1 No.....2</p> <p>AA. 3 or more cell phones in household Yes.....1 No.....2</p>	
hc4	<p>Does this household or a household member own the house? If not, do they rent it or live there without paying rent or live there temporarily?</p> <p>(CIRCLE ONLY <u>ONE</u> ANSWER.)</p>	<p>Owns the house.....1 Rents the house .....2 Uses without paying rent 3</p>	
hc5	<p>How many rooms in this house are used for sleeping? (WRITE IN THE NUMBER)</p>	<p><input type="text"/> <input type="text"/></p>	
hc6	<p>In the past year has anyone been paid to clean house or do laundry for this household? (CIRCLE ONLY <u>ONE</u> ANSWER.)</p>	<p>Yes, daily.....1 Yes, weekly 2 Yes, monthly .....3 Yes, quarterly 4 Yes, annually 5 No 6 Don't know.....88 Other: _____ 99</p>	

hc7	Does any member of this household own any land?	Yes .....1 No .....2	If 2, skip to hc11
hc8	What is the total amount of land owned by household member(s) together?	Total amount of land .....hectares (Enter 0 if less than 1 ha)	
hc9	Do you grow anything on the land?	Yes .....1 No .....2	If 2, skip to hc11
hc10	How much do you grow per year on the land?	Grains in bags How many months does this last? Vegetables (how many months do you have vegetables for the hh)..... Fruit (how many months do you have fruit for HH)... Roots and tubers (how many sacks?).....	
hc11	Does any member of this household own live-stock?	Yes .....1 No .....2	If 2, skip to hc15
hc12	How many heads of large sized live-stock (eg. cattle, horses, oxen) are currently owned by the household in total? (ONLY COUNT ADULT/GROWN ANIMALS)	Total number of large sized live-stock.....	
hc13	How many medium sized live-stock (eg. sheep, goats, pigs) are currently owned by the household? (ONLY COUNT ADULT/GROWN ANIMALS)	Total number of medium sized live-stock.....	
hc14	How many small sized live-stock (eg. chicken, ducks, rabbits, guinea fowl, turkey) are currently owned by the household? (ONLY COUNT ADULT/GROWN ANIMALS)	Total number of small sized live-stock.....	
hc15	WHAT IS THE MAIN MATERIAL OF THE FLOOR OF THE DWELLING? (OBSERVATION.) (CIRCLE ONLY ONE ANSWER.)	Natural floor Earth / sand.....1 Dung.....2 Rudimentary floor Wood planks.....3 Palm / bamboo.....4 Finished floor Parquet / polished wood.....5 Vinyl / asphalt strips.....6 Ceramic tiles.....7 Cement.....8 Carpet.....9 Other: .....99	

<p>hc1 6</p>	<p>WHAT IS THE MAIN MATERIAL OF THE ROOF OF THE DWELLING? (OBSERVATION.) (CIRCLE ONLY ONE ANSWER.)</p>	<p>Natural roofing No roofing.....1 Thatch / palm leaves.....2 Sod.....3 Rudimentary roofing Rustic mat.....4 Palm / bamboo.....5 Wood planks.....6 Plastic .....7 Finished roofing Metal./corrugated iron.....8 Calamine / cement fiber..... 9 Ceramic tiles.....10 Cement.....11 Roofing shingles.....12 Other: _____ 99</p>	
<p>hc1 7</p>	<p>WHAT IS THE MAIN MATERIAL OF THE EXTERIOR WALLS OF THE DWELLING? (OBSERVATION.) (CIRCLE ONLY ONE ANSWER.)</p>	<p>Plastic / Cardboard..... 1 Mud or mud and cement 2 Corrugated iron / zinc..... 3 Prefab 4 Bare brick or cement blocks..... 5 Plaster / finished..... 6 Other: _____99</p>	

WATER, SANITATION, AND HYGIENE (WASH)				
N°	QUESTIONS	ANSWERS	SKIP S	
<p>w1</p>	<p>What is the main source of drinking water for the members of your household? (CIRCLE ONLY ONE ANSWER.)</p>	<p>Piped water Piped into dwelling.....1 Piped to yard / plot.....2 Public tap / standpipe.....3 Tube well / borehole.....4 Dug well Protected /covered well.....5 Unprotected / open well.....6 Water from spring Protected spring.....7 Unprotected spring.....8 Rainwater.....9 Tankertruck.....10 Cart with small tank.....11 Surface water River / stream .....12 Dam .....13 Lake / Pond .....14 Water vendor / Bottled / sachet .....15 Don't know.....88 Other: _____99</p>		

w2	Where is that water source located? (CIRCLE ONLY ONE ANSWER.)	In own welling.....1 In own yard/plot.....2 Elsewhere.....3	If 1 or 2, skip to w4
w3	How long does it take to go there, get water and come back? (WRITE IN THE NUMBER.) (IF 'DON'T KNOW', RECORD 888)	Minutes..... <input type="text"/> <input type="text"/> <input type="text"/>	
w4	Do you usually do anything to your drinking water to make it safer to drink? (CIRCLE ONLY ONE ANSWER.)	Yes.....1 No.....2	If No, skip to w6
w5	What do you usually do to the water to make it safer to drink? (DO NOT PROMPT. PROBE "ANYTHING ELSE?") (CIRCLE YES FOR EACH ITEM MENTIONED AND NO FOR EACH ITEM NOT MENTIONED.)	A. Boil Yes / No B. Add bleach / chlorine Yes / No C. Strain through a cloth Yes / No D. Use a water filter (ceramic / sand / composite ...) Yes / No E. Solar disinfection Yes / No F. Let it stand and settle Yes / No G. Smoking Yes / No H. Don't know Yes / No I. Other: _____ Yes / No	
w6	What kind of toilet facility do members of your household usually use? (DO NOT PROMPT.) (CIRCLE ONLY ONE ANSWER.)	Flush / pour flush toilet Flush to piped sewer system.....1 Flush to septic tank.....2 Flush to pit latrine.....3 Flush to elsewhere.....4 Flush, don't know where.....5 Pit latrine Ventilated improved pit latrine.....6 Pit latrine <u>with</u> slab.....7 Pit latrine <u>without</u> slab / open pit.....8 Composting toilet.....9 Bucket toilet.....10 Hanging toilet / hanging latrine.....11 No facilities / bush / field.....12 Don't know.....88 Other: _____99	
w7	Do you share this facility with other households? (CIRCLE ONLY ONE ANSWER.)	Yes.....1 No.....2	

w8	How do you dispose your household waste? (DO NOT PROMPT.) (CIRCLE ALL ANSWERS MENTIONED.)	Composting	1	
		Recycle some items	2	
		Burning	3	
		Municipal garbage pick-up.....	4	
		Designated municipal dumping container/area ...	5	
		Dump in rivers, streams	6	
		Dump in forest	7	
		Dump on open land.....	8	
		Don't know.....	88	
		Other: _____	99	

HEALTH SERVICES ACCESS			
N°	QUESTIONS	ANSWERS	SKIPS
hs1	How long does it take to travel to the nearest primary health care facility? (A. WRITE IN THE NUMBER.) (B. CIRCLE THE UNIT.) (IF 'DON'T KNOW', RECORD 88.)	A. Duration <input type="text"/> <input type="text"/> <input type="text"/> B. Minute(s).....1 Hour(s).....2 Day(s).....3	If A is 88, skip to income module.

HOUSEHOLD INCOME			
N°	QUESTIONS	ANSWERS	SKIPS
hi1	How many of the following social grants are received in this household? (FILL IN THE NUMBER OF PERSONS RECEIVING EACH SPECIFIC GRANT. FILL IN 0, IF NOBODY RECEIVES A GRANT, 88= Don't know)	Child support grant..... <input type="text"/> <input type="text"/> State Old age pension..... <input type="text"/> <input type="text"/> Disability grant..... <input type="text"/> <input type="text"/> Foster care grant,..... <input type="text"/> <input type="text"/> LEAP (Ghana)..... <input type="text"/> <input type="text"/> Other _____ <input type="text"/> <input type="text"/>	
hi2	How many people contribute to the total income (money) in this household? (CIRCLE ONLY ONE ANSWER.)	None.....1 1 person.....2 2 persons.....3 3-4 persons.....4 5-6 persons.....5 More than 6 persons.....6 Don't know.....88 Other: _____.....99	

hi3	What is the total household income per month before deductions (including wages, rent, grants, sales of vegetables, etc.) of everybody in the household added together?	South Africa Less than R3001.....1 R3001-4000.....2 R4001-5000.....3 R5001-R7500.....4 R7501-R10,000.....5 R10,0001-R15,000.....6 R15,001-R20,000.....7 R20,0001-R30,000.....8 R30,0001-R40,000.....9 R40,001 or more.....10 Don't know..... 88	Ghana Less than 964.....1 965-1285.....2 1286-1606.....3 1607-2409.....4 2510-3212.....5 3213-4819.....6 4820-6425.....7 6426-9638.....8 9639-12851.....9 12852 or more.....10 Don't know.....88	
	If you can tell me the amount off hand please do so, otherwise I will read out various income brackets. Please stop me when I say the amount that you think represents the total monthly income of the household. (CIRCLE ONLY ONE ANSWER.)			

“I would like to ask some questions about the availability of food in your household over the last month.”

HOUSEHOLD HUNGER SCALE (BALLARD ET AL. 2011)				
N°	QUESTIONS	ANSWERS		SKIP S
hh1	In the past month, was there ever no food to eat of any kind in your house because of lack of resources to get food?	Yes .....1 No .....2		If no, skip to hh2
hh1a	How often did this happen in the past month?	Rarely (1-2 times) .....1 Sometimes (3-10times) ...2 Often (>10 times) .....3		
hh2	In the past month, did you or any household member go to sleep at night hungry because there was not enough food?	Yes .....1 No .....2		If no, skip to hh2
hh2a	How often did this happen in the past month?	Rarely (1-2 times) .....1 Sometimes (3-10times) ...2 Often (>10 times) .....3		
hh3	In the past month. Did you or any household member go a whole day and night without eating anything at all because there was not enough food?	Yes .....1 No .....2		If no, skip to hh2
hh3a	How often did this happen in the past month?	Rarely (1-2 times) .....1 Sometimes (3-10times) ...2 Often (>10 times) .....3		

LIVED POVERTY INDEX (AFRIBAROMETER – MATTES, DULANI & GYIMAH-BOADI 2016)			
N°	QUESTIONS	ANSWERS	SKIPS
lpi1	Over the past year, how often, if ever, have you or anyone in your family: Gone without enough food to eat? (CIRCLE ONLY ONE ANSWER)	Never .....1 Just once or twice .....2 Several times .....3 Many times .....4 Always .....5 Don't know.....88	
lpi2	Over the past year, how often, if ever, have you or anyone in your family: Gone without enough clean water for home use? (CIRCLE ONLY ONE ANSWER)	Never .....1 Just once or twice .....2 Several times .....3 Many times .....4 Always .....5 Don't know.....88	
lpi3	Over the past year, how often, if ever, have you or anyone in your family: Gone without medicines or medical treatment? (CIRCLE ONLY ONE ANSWER)	Never .....1 Just once or twice .....2 Several times .....3 Many times .....4 Always .....5 Don't know.....88	
lpi4	Over the past year, how often, if ever, have you or anyone in your family: Gone without enough fuel to cook your food? (CIRCLE ONLY ONE ANSWER)	Never .....1 Just once or twice .....2 Several times .....3 Many times .....4 Always .....5 Don't know.....88	
lpi5	Over the past year, how often, if ever, have you or anyone in your family: Gone without a cash income? (CIRCLE ONLY ONE ANSWER)	Never1 Just once or twice2 Several times3 Many times4 Always5 Don't know.....88	

CHECK THE QUESTIONNAIRE & THANK THE RESPONDENT**



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FISANTEKRAAL: ULWAZI OLUPHANGALELEYO KULUTSHA MALUNGA NOKONDLIKA IMIBUZO ENGQAMENE NEKHAYA

dateint	Umhla wodliwanondlebe	DD / MM / YY				□ □ / □ □ /	□ □	1	7
teamid	Iqumrhu elikhangelayo	□ □	intid	Umthathi nxaxheba obuzwayo okhangelayo	□ □				
ctryid	Ilizwe	01. Mzantsi Africa						□ □	
eaid	Ukukhangela indawo	08 Fisantekraal						□ □	
hh	Ukukhangela ikhaya	□ □	GPS	GPS abaqulunqi					

Molo, igama lam ngu _____. Ndisebenza eDyunivesithi yaseNtshona Koloni. Sinomdla wokwazi ngosapho lwakho, ngendlela enihlala ngayo apha endlini kunye nokutya endlini. Ngubani oyena mntu apha endlini onolwazi kakhulu ngokuthenga ukutya evenkeleni kunye nokukupheka apha endlini? Umzekelo, singathanda ukwazi ukuba kukangaphi okanye mangaphi amaxesha enikutya ngako ukutya okohlukeneyo. Singathetha nalomntu owenza ezizinto apha endlini?

(Ungalwenzi udliwanondlebe ukuba umntu lo ulapha endlini uneminyaka engaphantsi engu 18)

Ukuba ukhona umntu okhoyo endlini:

- *Thatha eli phepha ulibonise lomntu ozakwenza naye udliwano ndlebe, umcele ukuba agcwalise iphepha mvume lokuthabatha inxaxheba koluphando. Bhala ugcwalise iphepha lemibuzo yezinto zasendlini.*
- *Cacisa ukuba uzakucela uthetha nomntu omnye uve ngento ebebeyitye ngemini yayizolo, cela uthathe umlinganisefelo wakhe wobude nomlinganisefelo wakho womzimba. Gwalisa iphepha mvume lophando lalomntu. Khumbula ukuthatha iphepha mvume ukuba umntu lo uthetha naye uneminyaka ukusuka ku 8 ukuya ku 18. Gqibezela elaphepha libuza ngokutya kwaye uthathe imilinganisefelo yomntu lowo.*

Ukubo akukho mntu ufumanekayo endlini:

- *Cwangcisa usuku lokuhambela lwesibini lokuphinda ubuye ukugqiba imibuzo engqamene nekhaya xa umntu onolwazi malunga nokuta ekhayeni ekhona.*

Kuhambelo lwesibini:

- *Ukuba lomntu wazi ngokutya apha endlini ukhona, mcele ukuba atyikitye isivumelwano sokuthatha inxaxheba kuphando kunye nephepha lemibuzo lwezinto zasendlini. Ukuba lomntu akafumaneki, cela ukuthetha nomnye umntu okhoyo apha endlini. Yabelana ngefomu echaza ngesifundo yaye umcele agqibe ukubhala ifomu yesivumelwano neyemibuzo engqamene nekhaya;*
- *Cacisa okokuba ungathanda ukuthetha nomntu omnye malunga nezinto athe wazitya ngezolo, yaye uthathe umlinganisefelo wobunzima nobude bomntu. Gqiba ifomu yesivumelwano yalomntu. Khumbula ukucela imvume kumzali womntwana ukuba umntu uneminyaka ephakathi kweibhozo neshumi elinesibhozo. Gqiba ifomu enekcukhaca zokutya okutyiweyo/nemilingaselo ejonga ubume bomntu.*

Cons	Ingaba imvume yokwenza uphando ifumanekile?	Ewe.....1	Hayi.....2	Ukuba ngu ewe ,qalisa Ukuba ngu hayi , yiyeke
Visitno	Mangaphi amatyeli uzama ukuza apha endlini <i>Bhala xa sowugqibile udliwanondlebe okanye xa sowubuye okwesibini apha kulendlu</i>	□		

Outhh	Iziphumo zemibuzi iHH <i>Gcwalisa emveni uphendule yonke imibuzo yelikhaya</i>	Igqityiwe.....1 Akavumanaga.....2 Akukho mntu endlini okanye akukho mntu umdala endlini ngexesha lotyelelo.....3 Umntu okhoyo endlini uphantsi kwempembelelo zotywala okanye akaziva kakahle.....4 Ezinye: .....99	Ukuba ngu 3 ok ngu 4, buya emv kwexesha okwe
		Umphathi ajonge	Bhala oonobumba ewe _____

INUKUHACA ZEKHAYA										
Ngoku sicea ulwazi ngabantu abahlala apha endlini. Oku kubandakanya abantu abalala apho endlini kane nangaphezulu evekini kwaye otya ukutya okuphekwe apha endlini.										
Qala ngokubhala intloko yekhaya.										
Line number	A. Igama okanye ilungu lokuqala elimele igama lomntu	B. Isini	C. Iminyaka (ngokweminyaka OKANYE iinyanga).		D. Ngalomzuzu uyaya Uyaya esikolweni okanye ekholejini?	E. Inqanaba eliphezulu lemfundo eligqityiweyo				
			Iminyaka (Shicelela iminyaka ukuba ingaphezulu kweminyaka emihlanu	Inyanga (Shicelela iinyanga ukuba zingaphantsi kweenyan ga ezingamas humi amathand athu		Ewe.....1	Hayi.....2	0	5	7	12	>12
01	Intloko yekhaya	N / M	<input type="checkbox"/> <input type="checkbox"/>		Ewe.....1 Hayi.....2	0	5	7	12	>12
02		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi..... 2	0	5	7	12	>12
03		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi.....2	0	5	7	12	>12
04		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi..... 2	0	5	7	12	>12
05		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi.....2	0	5	7	12	>12
06		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi..... 2	0	5	7	12	>12
07		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi.....2	0	5	7	12	>12
08		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi..... 2	0	5	7	12	>12
09		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi.....2	0	5	7	12	>12

10		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi..... 2	0	5	7	12	>12
11		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi.....2	0	5	7	12	>12
12		N / M	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	Ewe.....1 Hayi..... 2	0	5	7	12	>12
hh1a	<i>Ukuqinisekisa ukuba ndinaye wonke umntu kululuhlu lwam: Ingaba bakhona abanye abantu abalapha endlini njengabantwana abancinci okanye amasana esingawafakanga koluluhlu? Ukuba ngu EWE impendulo, yongeza igama koluluhlu lwam.</i>									
hh1b	<i>Bakhona abanye abangengomaungu osapho, njengo mntu oncedisayo, umntu obhatala igumbi, okanye iitshomi ezidla ngokuhlala apha yaye zabelana ngembiza enokutya ixesha elingangeentsuku ezine zeveki? Ukuba EWE, yongeza igama kule tafile</i>									
<i>Qaphela: Yongeza elinye iphepha ukuba kukho omnye umntu apha endlini</i>										
Lnr	Umgca nani womphenduli (<i>BHALA INANI ELIKWINKZAZELO YEKHAYA</i>)						<input type="checkbox"/> <input type="checkbox"/>			

Jonga inkazelo malunga nokugqitywa!



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INKCAZELO EMFUTSHANE YOKUBELEKA

N°	IMIBUZO	IMPENDULO	TSIBA
bh1	<p>Xa baphelele, bangaphi abantwana abazelweyo apha endlini kule minyaka mihlanu idlulileyo? Sicela ubale nomntwana owaswelekayo kodwa wazalwa ephila wakhala.</p> <p><i>(BHALA INOMBOLO KWIBHOKISI.)</i></p> <p><i>(UKUBA" akekho" SHICILELA 00. UKUBA AWAZI SHICILELA 88.)</i></p>	<p align="center"> <input type="checkbox"/> <input type="checkbox"/> </p>	<p>Ukuba 00 okanye 88, tsibela inkcaza yeenkcukhca ezichaza ikhaya.</p>
bh2	<p>Ingaba lomntwana okanye abantwana basaphila?</p> <p><i>(RHANGQA IMPENDULO ENYE IMPENDULO)</i></p>	<p>Bayaphila bonke .....1</p> <p>Omnye okanye ngaphezulu uswelekile kule minyaka mihlanu idlulileyo.....2</p> <p>Andiyazi.....88</p>	



IINKCUKHACA ZEKHAYA

N°	IMIBUZO	IMPENDULO	TSIBA
hc1	Ingaba lendlu nihlala kuyo inawo umbane? (RHANGQA IMPENDULO ENYE KUPHELA)	Ewe.....1 Hayi.....2	
hc2	Kusetyenziswa awaphi amafutha ekhayeni lakho kakhulu enipheka ngawo? (RHANGQA IMPENDULO ENYE NGEXESHA.)	Umbane.....1 LPG.....2 Irhasi.....3 iBiogas.....4 Kerosene / Parafini.....5 Amalahle.....6 Amakhandlela.....7 Inkuni.....8 Iintsasa/ Ingca.....9 Ubulongwe.....10 Ilangambiza epheka ngamandla elanga.....11 Akho kutya kuphekwayo apha endlini.....12 Andiyazi.....88 Ezinye: .....99	
hc3	Ingaba ikhaya lenu okanye umntu ohlala apha kwikhaya lenu unayo i...? (KHOKELELA NGENQAKU NGALINYE; SHICELELA ONKE AMANQAKU EKHAYENI) (ENZA ISANGQA OKANYE PHENDULA INQAKU NGALINYE.)	A. Unomathotholo (ngaphandle konomathotholo wemoto) Ewe.....1 Hayi.....2 B. Umabonakude Ewe.....1 Hayi.....2 C. Isidlalisi seDVD Ewe.....1 Hayi.....2 D. Ubhaliselel iMNet-DSTV Ewe.....1 Hayi.....2 E. Isixubi moya Ewe.....1 Hayi.....2 F. Computer / desktop / laptop Ewe.....1 Hayi.....2 G. Vacuum cleaner / floor polisher Ewe.....1 Hayi.....2 H. Umatshini wokuhlamba izitya Ewe.....1 Hayi.....2 I. Umatshini wokomisa impahla Ewe.....1 Hayi.....2	

<p>Ingaba ekhayeni okanye noba ngowuphi umntu ekhayeni unayo ... ?</p> <p>(KHOKELELA NGENQAKU NGALINYE; SHICELELA ONKE AMANQAKU EKHAYENI)</p> <p>(ENZA ISANGQA OKANYE PHENDULA INQAKU NGALINYE.)</p>	<p>J. Umnxeba wasendlini Ewe.....1 Hayi.....2</p>
	<p>K. Isikhenkcezisi Ewe.....1 Hayi.....2</p>
	<p>L. Isibandisi / esidibeneyo isibandisi nesikhenkcezisi Ewe.....1 Hayi.....2</p>
	<p>M. Isitovu sokupheka sombane Ewe.....1 Hayi.....2</p>
	<p>N. Isitovu sokupheka serhasi Ewe.....1 Hayi.....2</p>
	<p>O. I-onti efudumezayo Ewe.....1 Hayi.....2</p>
	<p>P. Isinki eyakhelweyo yekhitshi Ewe.....1 Hayi.....2</p>
	<p>Q. Ukhuseleko lwendlu Ewe.....1 Hayi.....2</p>
	<p>R. Indawo esekhaya yokubukela ibhayiskopu Ewe.....1 Hayi.....2</p>
	<p>S. Ibhayisekile enamavili amabini nenamavili amathathu Ewe.....1 Hayi.....2</p>
	<p>T. Imoto enamavili amabini, isithuthuthu, imoto etsalwa ngumntu enamavilili amabini, imoto, itraki, imoto enamavili amelana namaqhina, okanye itelelele Ewe.....1 Hayi.....2</p>
	<p>U. Inqwelo yamanzi okanye iintambo zokubamba intlazi Ewe.....1 Hayi.....2</p>
	<p>V. Inqwelo yezilwanyana ezityebileyo Ewe.....1 Hayi.....2</p>
	<p>W. Umntu oncedisayo endlini Ewe.....1 Hayi.....2</p>
<p>X. Amanzi ashushu aphuma egizeni Ewe.....1 Hayi.....2</p>	
<p>Y. Umxeba wesandla Ewe.....1 Hayi.....2</p>	

		AA. Iminxeba mibini yesandla ekhayeni Ewe.....1 Hayi.....2	
		BB. Iminxeba yesandla emithathu okanye ngaphezulu ekhayeni Ewe.....1 Hayi.....2	
hc4	Ingaba elikhaya okanye lungu lekhaya linebango lwendlu? Ukuba hayi, bayarhafa okanye bahlala kwindlu bengarhafi okanye bahleli ithutyana? (RHANGQA IMPENDULO ENYE KUPHELA.)	Unebango kwindlu.....1 Uyarhafa kule ndlu.....2 Uyisebenzisa engarhafi 3 Akukho banxusi..... 4	
hc5	Mangaphi amagumbi apha kulendlu asetyenziselwa ukulala? (BHALA INOMBOLO PHAKATHI)	<input type="checkbox"/> <input type="checkbox"/>	
hc6	Kulo nyaka uphelileyo, ingaba ukhona umntu ebeqashiwe ukuba azococa okanye azovasa impahla apha ekhayeni? (RHANGQA IMPENDULO ENYE KUPHELA.)	Ewe, yonke le mihla.....1 Ewe, qho ngeveki 2 Ewe, kanye ngenyanga.....3 Ewe, kane ngonyaka 4 Ewe, kanye ngonyaka 5 Hayi 6 Andiyazi.....88 Ezinye : 99	
hc7	Ingaba ukhona umntu apha endlini onomhlaba ongowakhe?	Ewe .....1 Hayi .....2	Ukuba ngu 2 , tsiba uye ku hc11
hc8	Ingaba ungakanani umhlaba xa udibene wonke wabantu balapha endlini?	Ungakanani umhlaba uwonke.....ubukhulu	
hc9	Ingaba ikhona into elinyiweyo kulo mhlaba?	Ewe .....1 Hayi .....2	Ukuba ngu 2 , tsiba uye ku hc11
hc10	Ulima kangakanani kulomhlaba ngonyaka?	Isivuno esisengxoweni Ingaba ihlala inyanga ezingaphi? Imifuno (zibangaphi inyanga unihlala ninayo imifuno endlini hh)..... Iziqhamo (Zibangaphi inyanga enihlala ninazo iziqhamo HH)...	
hc11	Ingaba ukhona umntu ohlala apha endlini ofuyileyo?	Ewe.....1 Hayi.....2	Ukuba ngu 2 , tsiba uye ku hc15

hc12	Zingaphi iimfuyo ezinentloko enkulu (umzekelo. Imkomo okanye ihashe) ezibangwa kwelikhaya zizonke? (BALA IZILWANYANA ESEZIKHULILE/ IZILWANYANA EZINDALA)	Inani elipheleleyo lwezilwanyana ezinkulu.....
hc13	Zingaphi izilwanyana eziphakathi (umzekelo igusha, ibhokhwe, ihagu) ezibangwa kwelikhaya zizonke? (BALA IZILWANYANA ESEZIKHULILE/ IZILWANYANA EZINDALA)	Inani elipheleleyo lwezilwanyana ezinkulu.....
hc14	Zingaphi izilwanyana ezincinci (umzekelo. inkukhu, amadada, imivundla) ezikhoyo apha ekhayeni? (BALA IZILWANYANA ESEZIKHULILE/ IZILWANYANA EZINDALA)	Inani elipheleleyo lwezilwanyana ezinkulu.....
hc15	INDLU LE NIKUYO YAKHIWE NGANTONI? (QWALASELA.) (RHANGQA IMPENDULO ENYE NGEXESHA)	Umhlaba wendalo Umhlaba / isanti.....1 Ubulongwe.....2 Umgangatho ophantsi Amapulanga omthi.....3 Umthi wePhalm / umgangatho ophezulu.....4 Umgangatho ogqityiweyo Ipulanga elipolishiweyo.....5 amacwecwe evinyl.....6 litileyiti eyaphukayo.....7 Isamente.....8 iKhaphethi.....9 Ezinye: .....99
hc16	INDLU LENIKUYO LWENZIWE NGANTONI UPHAHLA LWAYO? (QWALASELA.) (RHANGQA IMPENDULO ENYE KUPHELA.)	Uphahla lwendalo Alukho uphahla.....1 Uphahla lwengca/amahlahla omthi.....2 ISod.....3 Uphahla olomeleleyo Umthamo weRustic imethi.....4 Umthi wePalm / umgangatho ophezulu.....5 Amapulanga omthi.....6 iPlastiki .....7 Uphahla olugqityiweyo Intsimbi.....8 iKhalamayini?/ isamente exutyiweyo..... 9 litileyiti ezaphukayo.....10 Isamente.....11 Uphahla olukhahliweyo.....12 Ezinye: 99
hc17	INGABA KUSETYENZISWE NTONI UKWENZIWA UDONGA LWENDLU LWANGAPHANDLE? (QWALASELA.) (RHANGQA IMPENDULO ENYE KUPHELA .)	Iplastiki/ kharibhodi..... 1 Udaka okanye isamente.....2 Amacangci / amazinki.....3 Prefab 4 Isitena okanye isitena esisanyentiweyo..... 5 Isanyentiwe / igqityiwe..... 6 Ezinye: .....99

AMANZI, UCOCEKO NEZEMPILO (HLAMBA)			
N°	IMIBUZO	IMPENDULO	SKIPS
w1	<p>Ingaba amanzi eniwasebenzisayo apha endlini avela phi?</p> <p>(RHANGQA IMPENDULO ENYE KUPHELA)</p>	<p>Amanzi asebhobheni</p> <p> Usebhobheni usiya endlini.....1</p> <p> Usebhobheni usiya eyadini/esizeni.....2</p> <p> Impompo kawonkewonke/ umbhobho ozimeleyo.3</p> <p>Umthombo wemibhobho/umthombo.....4</p> <p>Umthombo ogrunjiweyo</p> <p> Umthombo okhuselekileyo/ovalekileyo.....5</p> <p> Umthombo ongakhuselekanga/ovulekileyo.....6</p> <p>Amanzi aphuma emthonjeni</p> <p> Umthombo okhuselekileyo.....7</p> <p> Umthombo ongakhuselekanga.....8</p> <p>Amanzi</p> <p> emvula.....9</p> <p> Iloli enetanki lamanzi.....10</p> <p> Inqwelo enetanki elincinci.....11</p> <p>Amanzi abonakalayo</p> <p> Umlambo/Umfula .....12</p> <p> Idama .....13</p> <p> Ichibi/ ichibi .....14</p> <p>Umthengisi wamanzi / asebhotaleni/ asengxoweni</p> <p> yeplastiki.....15</p> <p>Andiyazi.....88</p> <p>Ezinye: .....99</p>	
w2	<p>Ingaba amanzi asetyenziswa apha endlini avela phi?</p> <p>(RHANGQA IMPENDULO ENYE KUPHELA)</p>	<p>Endaweni yam.....1</p> <p>Eyadini yam/esizeni.....2</p> <p>Kwenye indawo.....3</p>	<p>Ukuba ngu 1 okanye 2, tsiba uye ku w4</p>
w3	<p>Kuthatha ixesha elingakanani ukuyokukha amanzi uphinde ubuye?</p> <p>(BHALA INAMBARI.)</p> <p>(UKUBA 'AWUYAZI', FAKA U 888)</p>	<p>Imizuzu..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	
w4	<p>Ingaba ikhona into oqhele ukuyenza emanzini akho ukuqinisekisa ukuba acocekile ukuze aselwe?</p> <p>(RHANGQA IMPENDULO ENYE KUPHELA.)</p>	<p>Ewe.....1</p> <p>Hayi.....2</p>	<p>Ukuba ngu Hayi, tsiba uye ku w6</p>
w5	<p>Ingaba uqhele ukuwenza ntoni amanzi ukuze uqiniseke ukuba akulungele ukuselwa?</p> <p>(Sukukhokelisa. Yenza bacinge ngenye</p>	<p>A. Uyawabilisa Ewe / Hayi</p> <p>B. Wongeza iblitshi /ityuwa Ewe / Hayi</p> <p>C. Uyasefa elaphini Ewe / Hayi</p> <p>D. Usebenzisa isihluzi (iseramic / isanti / eyodidi ...)</p>	

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	into?") (Yenza isangqa ukuba EWE yenqaku ngalinye oyichazileyo kunye noHaYI ngenqaku elingachazwanga.)	E. Ukucoca ngelanga Ewe / Hayi F. Uyawayeka eme yaye azole Ewe / Hayi G. Andiyazi Hayi Ewe / H. Ezinye: _____ Ewe / Hayi	
w6		Ukunguxula / uyagalela ukuze igungxule indlu yangasese Ukungxulela kwimibhobho eyenzelwe ilindle.....1 Ukungxulela kwitanki elineziqholo.....2 Ukungxulela emngxunyeni.....3 Ukungxulela naphi na.....4 Uyagugxula, awazi phi.....5 Indlu yangasese egrunjiweyo Yindlu yangasese engena iphuma umoya.....6 Yindlu yangasese enesamente.....7 Yindlu yangasese engenasamente/ ngumngxunya ovulekileyo.....8 Indlu yangasese eyenza umgquba .....9 Indlu yangasese yepheyile.....10 Indlu yangasese ejingayo / ilindle elixhonywayo....11 Akukho zindawo/ lihlathi/ libala.....12 Andiyazi.....88 Ezinye: _____99	
w7	Uyabelana ngeliziko nezinye izindlu? (RHANGQA IMPENDULO ENYE KUPHELA.)	Ewe.....1 Hayi.....2	
w8	Ingaba uyilahla phi inkunkuma yakho yasendlini? (UNGAMKHOKELELI UMNTU UKUBA APHENDULE.) (RHANGQA ZONKE IMPENDULO EZIFANELEKILEYO)	Ukwenza umgquba .....1 Zihlambe uphinde uzisebenzise.....2 Uyayitshisa .....3 Ithathwa yimoto yomgqomo ethutha inkunkuma.....4 Uyilahla emlanjeni, edamini.....5 Ukuyilahla ehlathini.....6 Ukuyilahla ethafeni.....7 Andiyazi.....88 Ezinye: _____99	

UKUFIKELELA KWIINKONZO ZEZEMPILO			
N°	IMIBUZO	IMPENDULO	TSIBA
hs1	Ingaba kuthatha ixesha elingakanani ukusuka apha endlini ukuya kwikliniki ekufutshane? (A. BHALA INOMBOLO.)	A. ixesha elingakanani <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> B. Imizuzu.....1 Iyure.....2	Ukuba ngu A ngu 88 , tsiba uye

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	<p>(B.RHANGQA INDAWO EFANELEKILEYO.)</p> <p>(UKUBA AWUYAZI, BHALA U 88.)</p>	Intsuku.....3	kwimali erholwa yo i.
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INGENISO EKHAYENI

N°	IMIBUZO	IMPENDULO	TSIBA
hi1	Zingaphi imali zesibonelelo sika Rhulumente ezirholwayo apha ekhayeni lakho? (BHALA INAMBARI YOMNTU OFUMANA ISIBONELELO. BHALA U 0, UKUBA AKUKHO MNTU UFUMANA ISIBONELELO, UBHALE U 88=UKUBA awuyazi)	Isibonelelo sikaRhulumente esifunyanwa ngumntwana..... <input type="checkbox"/> <input type="checkbox"/> Isibonelelo sikaRhulumente somntu omdala <input type="checkbox"/> <input type="checkbox"/> Isibonelelo somntu okhubazekileyo..... <input type="checkbox"/> <input type="checkbox"/> Isibonelelo somntwana omgcinisiweyo..... <input type="checkbox"/> <input type="checkbox"/> Ezinye _____ <input type="checkbox"/> <input type="checkbox"/>	
hi2	Bangaphi abantu apha endlini abarholisayo kwimali iyonke yalapha endlini? (RHANGQA IMPENDULO ENYE KUPHELA.)	Akekho.....1 1 mntu.....2 2 abantu.....3 3-4 abantu.....4 5-6 abantu.....5 Abantu abangaphezu ko 6.....6 Andiyazi.....88 Ezinye: .....99	
hi3	Ingaba yimalini imali yalapha endlini iphelele ngenyanga phambi kokuba kutsalwe izinto?(kuquka umvuzo, irenti, isibonelelo, ukuthenga imifuno kunye nezinye izinto) Ukuba uyakwazi ukundinika isixa mali ngokuyicinga nje ngoku ndicela undinike, ukuba awuzokwazi ndizokufundela imali ngendlela ezibekwe ngayo apha. Ndicela undimise ukuba ndifikile kwesisixa semali sichaza le yalapha endlini. (RHANGQA IMPENDULO ENYE KUPHELA.)	Ngaphantsi kwe R3001.....1 R3001-4000.....2 R4001-5000.....3 R5001-R7500.....4 R7501-R10,000.....5 R10,0001-R15,000.....6 R15,001-R20,000.....7 R20,0001-R30,000.....8 R30,0001-R40,000.....9 R40,001 okanye ngaphezulu .....10 Andiyazi..... 88	

“Ndingathanda ukukubuza imibuzo ngokutya nokubakho nokungabikho kwakho apha endlini kulenyanga idlulileyo.”

ISIKALI ESIJONGA INDLALA EKHAYA (BALLARD ET AL. 2011)			
N°	IMIBUZO	IMPENDULO	TSIBA
hh1	Kule nyanga igqithileyo, ingaba bekukhe akwabikho kutya nokunjani endlini ngenxa yokuba bekungekho ndlela yokuba ungakufumana ukutya?	Ewe .....1 Hayi.....2	Ukuba ngu hayi,tsiba uye ku hh2
hh1a	Yenzeke ixesha elingakanani lento kulenyanga idlulileyo?	Manqaphanqapha (amatyeli ayi 1-2 ) .....1 Ngamanye amaxesha (amatyeli ayi 3-10) .....2 Rhoqo (ngaphezu kwamatyeli ayi 10) .....3	
hh2	Kule nyanga idlulileyo, ingaba wena okanye abanye abantu ohlala nnabo apha endlini balele ebusuku belambile kuba bekungekho kutya kwaneleyo apha endlini?	Ewe .....1 Hayi.....2	Ukuba ngu hayi,tsiba uye ku hh2
hh2a	Yenzeka ixesha elingakanani lento kulenyanga idlulileyo?	Manqaphanqapha (amatyeli ayi 1-2) .....1 Ngamanye amaxesha (amatyeli ayi 3-10) ...2 Rhoqo (ngaphezu kwamatyeli ayi 10) .....3	
hh3	Kule nyanga idlulileyo. Ingaba wena okanye omnye umntu ohlala apha endlini uyakwazi ukuhlala imini yonke kunye nobusuku bayo engakhange atye kuba kungekho kutya kwaneleyo apha endlini?	Ewe.....1 Hayi.....2	Ukuba hayi, tsiba uye ku hh2
hh3a	Yenzeka ixesha elingakanani lento kulenyanga idlulileyo?	Manqaphanqapha (amatyeli ayi 1-2)1 Ngamanye amaxesha (amatyeli ayi 3-10)2 Rhoqo (ngaphezu kwamatyeli ayi 10)3	

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ISALATHISI SOKUPHILA ENDLALANI (AFRIBAROMETER – MATTES, DULANI & GYIMAH-BOADI 2016)			
N°	IMIBUZO	IMPENDULO	TSIBA
Ipi1	Kulo nyaka udlulileyo, kukangaphi, ukuba kwakhe kwenzeka, ukuba wena okanye omnye umntu olilungu losapho : akabinakutya kwaneleyo kokutya? (RHANGQA IMPENDULO ENYE KUPHELA)	Zange .....1 Kanye okanye kabini .....2 Amaxesha abalekayo .....3 Amaxesha amaninzi .....4 Rhoqo.....5 Andiyazi.....88	
Ipi2	Kulo nyaka udlulileyo, kukangaphi, ukuba kwakhe kwenzeka, ukuba wena okanye omnye umntu olilungu losapho : akabinamanzi acocekileyo awaneleyo apha endlini? (RHANGQA IMPENDULO ENYE KUPHELA)	Zange .....1 Kanye okanye kabini .....2 Amaxesha abalekayo .....3 Amaxesha amaninzi .....4 Rhoqo.....5 Andiyazi.....88	
Ipi3	Kulo nyaka udlulileyo, kukangaphi, ukuba kwakhe kwenzeka, ukuba wena okanye omnye umntu olilungu losapho : akabinamayeza okanye akabinamayeza okusela xa egula? (RHANGQA IMPENDULO ENYE KUPHELA)	Zange .....1 Kanye okanye kabini .....2 Amaxesha abalekayo .....3 Amaxesha amaninzi .....4 Rhoqo.....5 Andiyazi.....88	
Ipi4	Kulo nyaka udlulileyo, kukangaphi, ukuba kwakhe kwenzeka, ukuba wena okanye omnye umntu olilungu losapho : anabinamafutha oneleyo okanye ezinye indelela sopheka okuthi nipeke ukutya? (RHANGQA IMPENDULO ENYE KUPHELA)	Zange .....1 Kanye okanye kabini .....2 Amaxesha abalekayo .....3 Amaxesha amaninzi .....4 Rhoqo.....5 Andiyazi.....88	
Ipi5	Kulo nyaka udlulileyo, kukangaphi, ukuba kwakhe kwenzeka, ukuba wena okanye omnye umntu olilungu losapho ; Akabanamali tu engenayo apha endlini? (RHANGQA IMPENDULO ENYE KUPHELA)	Zange .....1 Kanye okanye kabini.....2 Amaxesha abalekayo.....3 Amaxesha amaninzi .....4 Rhoqo.....5 Andiyazi.....88	

**JONGA IPHEPHA LEMIBUZO KAKUHLE EMVA KOKO UBULELE LOMNTU
UBUSENZA NAYE UDLIWANONDLIBE****

HUISHOUDING VRAELYS

dateint	Date of interview	DD / MM / YY <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>			
teamid	Team identifier	<input type="text"/> <input type="text"/>	intid	Interviewer identifier	<input type="text"/> <input type="text"/>
ctryid	Country	01. South Africa			<input type="text"/> <input type="text"/>
eaaid	Area identifier	07 Fisantekraal			<input type="text"/> <input type="text"/>
hh	Household identifier	<input type="text"/> <input type="text"/>	GPS	GPS coordinates	

Hallo, my naam is _____. I werk by UWK. Ons stel belang om te leer van jou familie, jou huis omstandighede en die kos wat julle in die huis het indien daar iemand in die ouderdom groep 18-25 jaar in hierdie huis woon. Wie is die beste ingelig omtrent die aankoop en voorbereiding van die kos in julle gesin? Mag ek asseblief met daardie persoon praat?
(Moenie 'n onderhoud voer met iemand wat jonger as 18 jaar is.)

Indien die persoon beskikbaar is:

- *Verduidelik die inligtingstuk aan die persoon en vra hom/haar om die Toestemmings vorm te voltooi. Voltooi die Huishouding Vraelys. Verduidelik dat jy graag met die persoon 18-25 jaar sal wil praat oor die kos wat hulle die vorige dag ge-eet het en ook om die persoon te weeg en te meet. Voltooi die Toestemmings vorm vir hierdie persoon. Moenie 'n onderhoud voer met iemand wat jonger as 18 is nie. Voltooi die 24uur herroep asook die Antropometrie.*

Indien die persoon nie beskikbaar is nie:

- *Skeduleer 'n tweede besoek op 'n tyd wanneer die persoon met kennis oor die voorbereiding en aankope van kos en die persoon 18-25 jaar tuis sal wees.*

Op die tweede besoek:

- *Indien die persoon met kennis oor die voorbereiding en aankope van kos beskikbaar is, vra die persoon om deel te neem. Voltooi die Toestemmingsvorm. Indien die persoon nie beskikbaar is nie, vra iemand anders met die nodige kennis om deel te neem. Verduidelik die studie en vra hom/haar om die Toestemmings vorm te voltooi.*
- *Verduidelik dat jy ook met 'n persoon in die ouderdom 18-25 jaar wil gesels oor die kos wat hulle die vorige dag ge-eet het en om die persoon te weeg en te meet. Voltooi die Toestemmings vorm vir hierdie persoon. Moenie 'n onderhoud voer met iemand wat jonger as 18 is nie. Voltooi die 24uur herroep asook die Antropometrie.*

Cons	Ingeligte toestemming verkry?	Ja.....1 Nee.....2	If yes , begin If no , end
visitno	Aantal kere waarop u probeer het om 'n onderhoud met die huishouding te voer <i>Voltooi nadat u onderhoud gevoer het of na tweede besoek.</i>	<input type="text"/>	
outhh	Uitkoms van HH vraelys <i>Voltooi nadat u die onderhoud afgehandel het.</i>	Voltooid.....1 Geweier.....2 Geen persoon tuis tydens die besoeke.....3 Lede van die huishouding onder die invloed / onbekwaam... ..4 Other: .....99	If 3 or 4, return later for a second visit.
	Supervisor check		Initial for yes _____

LEDELYS VAN DIE HUISHOUDING

Kan u my asseblief vertel van alle persone wat gewoonlik deel is van hierdie huishouding. Dit sluit in almal wat hier slaap en eet vir ten minste 4 nagte van die week. *Kom ons begin met die hoof van die huishouding.*

Line number	A. Naam of voorletters van persoon	B. Geslag	C. Ouderdom (in jare OR maande).		D. Studeer tans (skool of univ/ college)	E. Hoogste kwalifikasie voltooi. Skryf nommer van skool graad of 13 vir naskool kwalifikasie
			Jare (Indien >5 jr)	Maande (Indien <60mde)		
01	Hoof van huishouding	M / F	<input type="text"/> <input type="text"/>		Ja.....1 Nee.....2	
02		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
03		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
04		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
05		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
06		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
07		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
08		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
09		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
10		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
11		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	
12		M / F	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	Ja.....1 Nee.....2	

hh1a	<i>Net om seker te maak dat ons 'n volledige lys het, is daar enige ander persone of klein kinders wat u nie gelys het nie. Indien JA, voeg die name by.</i>	
hh1b	Is daar enige ander persone wat nie lede van die gesin is nie, maar wat ten minste 4 dae van die week saam met die gesin eet? Byvoorbeeld loseerders or huurders? Indien JA, voeg die name by.	
<i>Note: Add a new page if more people in the household</i>		
Lnr	Lyn nommer van die respondent (SKRYF DIE NOMMER VANAF DIE LEDELYS)	<input type="text"/> <input type="text"/>

Maak seker dat die ledelys van die huishouding voltooi is!

KORT GEBOORTE GESKIEDENIS			
N°	VRAAG	ANTWOORD	SKIPS
bh1	In total, hoeveel lewende geboortes was daar binne hierdie huishouding gedurende die afgelope 5 jaar? Sluit asseblief enige baba wat tekens van lewe getoon het by geboorte, in. (SKRYF DIE GETAL IN.) (INDIEN 'GEEN', SKRYF 00. INDIEN 'WEET NIE/ONBEKEND', SKRYF 88.)	<input type="text"/> <input type="text"/>	If 00 or 88 , skip to household characteristic s module.
bh2	Is hierdie kinders steeds lewende en hier woonagtig? (OMKRING SLEGS EEN ANTWOORD.)	Almal lewend.....1 Een of meer het afgesterf in die laaste 5 jaar.....2 Onbekend.....88	

UNIEKE IDENTIFIKASIE NOMMER

HUISHOUDELIKE EIENSKAPPE			
N°	VRAE	ANTWOORDE	SKIPS
hc1	Does your household have electricity? (CIRCLE ONLY ONE ANSWER.)	Ja.....1 Nee.....2	

hc2	<p>What fuel does your household mainly use for cooking?</p> <p>(OMKRING SLEGS EEEN ANTWOORD.)</p>	<p>Electricity.....1 LPG.....2 Natural gas.....3 Biogas.....4 Kerosene / Parafin.....5 Coal / Lignite.....6 Candles.....7 Firewood.....8 Straw / Shrubs / Grass.....9 Animal dung.....10 Sun/solar cooker.....11 No food cooked in household.....12 Don't know.....88 Other: .....99</p>	
hc3	<p>Besit enigiemand in die huishouding een van die volgende.....?</p> <p>(NOEM ELKE ITEM)</p> <p>(OMKRING SLEGS EEEN ANTWOORD VIR ELKE ITEM.)</p>	<p>A. Radio (nie 'n motor radio nie) Ja.....1 Nee.....2</p> <p>B. Televisie Ja.....1 Nee.....2</p> <p>C. DVD speler Ja.....1 Nee.....2</p> <p>D. MNet-DSTV / Multi-TV Ja.....1 Nee.....2</p> <p>E. Lugverkoeler Ja.....1 Nee.....2</p> <p>F. Rekenaar / skootrekenaar Ja.....1 Nee.....2</p> <p>G. Stofsuier / Vloer poleerder Ja.....1 Nee.....2</p> <p>H. Automatiesse skottelgoedwasser Ja.....1 Nee.....2</p> <p>I. Tuimeldroër Ja.....1 Nee.....2</p> <p>J. Huis telefoon (landline) Ja.....1 Nee.....2</p> <p>K. Vrieskas Ja.....1 Nee.....2</p> <p>L. Yskas / ys/vriekas kombinasie Ja.....1 Nee.....2</p> <p>M. Elektriese stoof Ja.....1 Nee.....2</p> <p>N. Gasstoof Ja.....1 Nee.....2</p> <p>O. Mikrogolf oond Ja.....1 Nee.....2</p> <p>P. Ingeboude opwasbak Ja.....1 Nee.....2</p>	

hc1 0	Hoeveel oes u van die jaarlikse aanplantings?	Graan in sakke..... Hoe lank hou die oes? Groente (vir hoeveel maande het u genoeg groente)..... Vrugte (vir hoeveel maande het u genoeg vrugte)..... Lopers en knolgroente (hoeveel sakke?).....	
hc1 1	Besit enigeen in die huishouding enige vee/lewendehawe?	Ja.....1 Nee.....2	If 2, skip to hc15
hc1 2	Hoeveel eenhede grootvee het u? (bv. Koeie, perde, osse totaal)? (TEL SLEGS VOLGROEIDE VEE)	Totale aantal grootvee.....	
hc1 3	Hoeveel medium grootte vee het u? (bv. Skape, bokke, varke) (TEL SLEGS VOLGROEIDE VEE)	Totale aantal medium vee	
hc1 4	Hoeveel kleinvee het u? (bv. Hoenders, eende, hase, kalkoene) (TEL SLEGS VOLGROEIDE VEE)	Totale aantal kleinvee.....	
hc1 5	VAN WATTER MATERIAAL IS DIE HUIS SE VLOER GEMAAK? (WAARNEMING) (OMKRING SLEGS <u>EEN</u> ANTWOORD.)	Natuurlike vloer Grond / sand.....1 Mis.....2 Growwe vloer Houtplanke.....3 Palm / bamboe.....4 Afgewerkte vloer Parquet / gepoleerde hout.....5 Viniel.....6 Teëls.....7 Sement.....8 Mat.....9 Ander :99	

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hc1 6	VAN WATTER MATERIAAL IS DIE DAK VAN DIE HUIS GEMAAK? (WAARNEMING) (OMKRING SLEGS EEN ANTWOORD.)	Natuurlike dak Geen dak.....1 Riete / palm blare.....2 Sooie.....3 Growwe dak Matte.....4 Palm / bamboe.....5 Hout planke.....6 Plastiek.....7 Afgewerkte dakbedekking Sinkplaat.....8 Veselcement.....9 Keramiek teels.....10 Sement.....11 Dak plate.....12 Ander:99	
hc1 7	VAN WATTER MATERIAAL IS DIE BUIE MURE VAN DIE HUIS GEMAAK? (WAARNEMING) (OMKRING SLEGS EEN ANTWOORD.)	Plastiek / Karton.....1 Modder / modder en sement.....2 Sinkplaat.....3 Voorafvervaardigde materiaa.....4 Rou bakstene of sement blokke.....5 Pleister .....6 Ander: .....99	

WATER, SANITASIE EN HIGIENE (WASH)				
N°	VRAE	ANTWOORDE	SKIP S	
w1	Wat is die hoofbron van drinkwater vir lede van die huishouding? (OMKRING SLEGS EEN ANTWOORD.)	Waterpype Binne die huis.....1 Op die erf.....2 Openbare krane.....3 Boorgat.....4 Put Beskerm / toegemaak.....5 Oop put.....6 Water vanaf a spruit Beskermd spruit.....7 Oop spruit / onbeskermd.....8 Reënwater.....9 Watertenk op trok.....10 Sleepwa met watertenk.....11 Oppervlak water Rivier / stroom.....12 Dam .....13 Meer.....14 Koop gebottelde water.....15 Weet nie.....88 Ander: .....99		

w2	Waar is die waterbron geleë? <i>(OMKRING SLEGS EEN ANTWOORD.)</i>	Binne eie woning.....1 Binne eie erf.....2 Elders .....3	If 1 or 2 , skip to w4
w3	Hoe lank need dit om water vir die huishouding te haal (gaan daar, kry water en kom terug)? <i>(SKRYF DIE GETAL IN)</i> <i>(INDIEN ONBEKEND, VUL IN 888)</i>	Minute..... <input type="text"/> <input type="text"/> <input type="text"/>	
w4	Doen julle gewoonlik iets met die water om dit veilig te maak om te drink? <i>(OMKRING SLEGS EEN ANTWOORD.)</i>	Ja.....1 Nee.....2	If No , skip to w6
w5	Wat doen julle gewoonlik met die water om die veilig te maak om te drink? <i>(MOENIE VOORSTELLE MAAK NIE; VRA SLEGS "ENIGIETS ANDERS?")</i> <i>(OMKRING JA VIR ELKE ITEM WAT GENOEM WORD EN NEE VIR ITEMS WAT NIE GENOEM WORD NIE)</i>	A. Kook Yes / No B. Voeg bleikmiddel by Yes / No C. Gooi dit deur 'n doek Yes / No D. Gebruik 'n filter (ceramic / sand / composite ...) Yes / No E. Gebruik solar ontsmetting Yes / No F. Laat dit staan om af te sak Yes / No G. Beroking Yes / No H. Weet nie / onbekend Yes / No I. Ander: _____ Yes / No	
w6	Watter tipe toilet gerief gebruik lede van die huishouding gewoonlik? <i>(MOENIE VOORSTELLE MAAK NIE)</i> <i>(OMKRING SLEGS EEN ANTWOORD.)</i>	Spoel toilet Spoel na pyp riool stelsel.....1 Spoel na septiese tenk .....2 Spoel na pit latrine.....3 Spoel iewers anders.....4 Spoel, maar ek weet nie waarheen nie.....5 Pit latrine Geventileerde pit latrine.....6 Pit latrine <u>met</u> sement sitplek.....7 Pit latrine <u>sonder</u> sitplek / oop.....8 Kompos toilet.....9 Bucket toilet.....10 Hang toilet.....11 Geen toilet / gebruik veld/bosse.....12 Weet nie.....88 Ander: _____99	
w7	Deel julle hierdie fasiliteit met ander huishoudings?	Ja.....1 Nee.....2	

	(OMKRING SLEGS EEN ANTWOORD.)		
w8	Hoe hanteer julle weggoerbare huis afval? (MOENIE ANTWOORDE VERSKAF NIE) (OMKRING ALL ANTWOORDE WAT VERSKAF WORD)	Komposhoop .....1 Herwin sommige afval .....2 Verbrand die afval .....3 Munisipale vullistrok laai dit op.....4 Munisipale storting area / houer .....5 Stort dit in die rivier/stroom.....6 Stort dit in die bosse 7 Stort dit op oop grond.....8 Weet nie / Onbekend.....88 Ander: .....99	

TOEGANG TOT GESONDHEIDS DIENSTE			
N°	VRAE	ANTWOORDE	SKIPS
hs1	Hoe lank neem dit om tot by die naaste primêre gesondheids diens te reis? (A. VUL DIE GETAL IN) (B. VUL DIE EENHEID IN) (INDIEN "ONBEKEND" VUL IN 88.)	A. Duration <input type="checkbox"/> <input type="checkbox"/> B. <input type="checkbox"/> Minute(s).....1 Hour(s).....2 Day(s).....3	If A is 88, skip to income module.

HOUSEHOUDELIKE INKOMSTE			
N°	VRAE	ANTWOORDE	SKIPS
hi1	Hoeveel van die volgende toelaes word binne die huishouding ontvang? (VUL DIE AANTAL PERSONE WAT N SPESIFIEKE TOELAE KRY IN. SKRYF 0, INDIEN NIEMAND SODANIGE TOELAE ONTVAND NIE, 88= Weet nie/onbekend	Kinder toelae..... <input type="checkbox"/> <input type="checkbox"/> Ouderdom persioen..... <input type="checkbox"/> <input type="checkbox"/> Gstremde toelae..... <input type="checkbox"/> <input type="checkbox"/> Pleegsorg toelae..... <input type="checkbox"/> <input type="checkbox"/> Ander _____ <input type="checkbox"/> <input type="checkbox"/>	
hi2	How many people contribute to the total income (money) in this household? (OMKRING SLEGS EEN ANTWOORD.)	None.....1 1 person.....2 2 persons.....3 3-4 persons.....4 5-6 persons.....5 More than 6 persons.....6 Don't know.....88 Other: .....99	

hi3	<p>Wat is die totale inkomste van die huishouding per maand nadat aftrekkings gedoen is. Sluit in salarisse, huurinkomste, toelaes, verkope. Tel die totale inkomste van alle lede van die huishouding bymekaar.</p> <p>Indien u nie die totale bedrag weet nie, sal ek die skale op hierdie bladsy vir u lees. Stop my wanneer die bedrag wat ek noem klink soos die totale inkomste van die huishouding.</p> <p>(OMKRING SLEGS EEN ANTWOORD.)</p>	<p>Less than R3001.....1 R3001-4000.....2 R4001-5000.....3 R5001-R7500.....4 R7501-R10,000.....5 R10,0001-R15,000.....6 R15,001-R20,000.....7 R20,0001-R30,000.....8 R30,0001-R40,000.....9 R40,001 or more.....10 Don't know..... 88</p>	

“Nou wil ek graag vrae vra oor die beskikbaarheid van kos in die huishouding, oor die afgelope maand.”

HUISHOUDELIKE HONGERTE SKAAL (BALLARD ET AL. 2011)			
N°	VRAE	ANTWOORDE	SKIPS
hh1	Gedurende die afgelope maand, was daar ooit geen kos van enige aard in die huis om te eet nie, en het u ook geen manier gehad om kos te kry nie?	Ja .....1 Nee.....2	If no, skip to hh2
hh1a	Hoe gereeld het dit in die afgelope maand gebeur?	Selde (1-2 times) .....1 Soms (3-10times) .....2 Gereeld (>10 times) .....3	
hh2	Gedurende die afgelope maand, het u of enige van u gesin, honger gaan slaap omdat daar nie genoeg kos was om te eet nie?	Ja .....1 Nee.....2	If no, skip to hh2
hh2a	Hoe gereeld het dit in die afgelope maand gebeur?	Selde (1-2 times) .....1 Soms (3-10times) .....2 Gereeld (>10 times) .....3	
hh3	Gedurende die afgelope maand, het u of enige van u gesin, vir 'n hele dag of nag gegaan sonder om te eet, omdat daar nie genoeg kos was nie?	Ja .....1 Nee.....2	If no, skip to hh2
hh3a	Hoe gereeld het dit in die afgelope maand gebeur?	Selde (1-2 times) .....1 Soms (3-10times) .....2 Gereeld (>10 times) .....3	

ARMOEDE ERVARING SKAAL (AFRIBAROMETER – MATTES, DULANI & GYIMAH-BOADI 2016)			
N°	VRAE	ANTWOORDE	SKIPS
lpi1	Oor die afgelope jaar, hoe gereeld, indien ooit, het u of u gesin: Geen kos gehad om te eet nie? (OMKRING SLEGS <u>EEN</u> ANTWOORD.)	Nooit .....1 Slegs een or twee kere.....2 Soms.....3 Dikwels.....4 Altyd.....5 Weet nie.....88	
lpi2	Oor die afgelope jaar, hoe gereeld, indien ooit, het u of u gesin: Geen skoon water gehad om te gebruik nie? (OMKRING SLEGS <u>EEN</u> ANTWOORD.)	Nooit .....1 Slegs een or twee kere.....2 Soms.....3 Dikwels.....4 Altyd.....5 Weet nie.....88	
lpi3	Oor die afgelope jaar, hoe gereeld, indien ooit, het u of u gesin: Geen medisyne gehad of kon u nie mediese behandeling kry nie? (OMKRING SLEGS <u>EEN</u> ANTWOORD.)	Nooit .....1 Slegs een or twee kere.....2 Soms.....3 Dikwels.....4 Altyd.....5 Weet nie.....88	
lpi4	Oor die afgelope jaar, hoe gereeld, indien ooit, het u of u gesin: Geen brandstof gehad om kos gaar te maak nie? (OMKRING SLEGS <u>EEN</u> ANTWOORD.)	Nooit .....1 Slegs een or twee kere.....2 Soms.....3 Dikwels.....4 Altyd.....5 Weet nie.....88	
lpi5	Oor die afgelope jaar, hoe gereeld, indien ooit, het u of u gesin: Geen kontant inkomste gehad nie? (OMKRING SLEGS <u>EEN</u> ANTWOORD.)	Nooit .....1 Slegs een or twee kere.....2 Soms.....3 Dikwels.....4 Altyd.....5 Weet nie.....88	

KONTROLEER DIE VRAELYS EN BEDANK DEELNEMER

INDIVIDUAL CHARACTERISTICS

hh	Unique number	Interviewer id / sequence hh □□ / □□□	lnr_di	Respondent line number_diet	Interviewer id / sequence hh / line no □□ / □□□ / □
Sex	Sex	M / F	age	Age of respondent	□□

No.	QUESTIONS	ANSWERS	SKIPS
gc1	How many of the children in this household are your own?	□□	
gc2	Do you have any other children who are alive who are not currently living with you in this household?	□□	
gc3	What is your employment status?	Unemployed..... 1 Self-employed..... 2 Wage earner..... 3 Part-time employment..... 4 Casual worker..... 5 Other (specify)..... 99	
gc4	What is your marital status?	Single..... 1 Married 2 Widowed and not remarried..... 3 Divorced and not remarried 4 Married but separated 5 Living together..... 6 Other specify)..... 99	Skip to Question gc7 if respondent is male
gc5	FOR FEMALE RESPONDENTS How long ago was your last pregnancy?	Never pregnant..... 77 Currently pregnant 0 Time since last pregnancy in A years □□ or B months □□	Skip to question gc7 if time since last pregnancy is >= 2 years/ never
gc6	FOR FEMALE RESPONDENTS Are you currently breastfeeding?	Yes 1 No..... 2	Only ask question if time since last pregnancy is <2years
gc7	Did you or your parents ever received a CSG for yourself?	Yes 1 No..... 2	
gc8	If yes, for how many years did you received the CSG?	years □□	Only ask if received CSG
gc9	Did you ever received food from the schoolfeeding scheme?	Yes 1 No..... 2	
gc10	If yes, for how long did you received food from the schoolfeeding scheme?	years □□	Only ask if received

HEALTH

he1	Has a professional ever diagnosed you with one of the following diseases? (PROMPT FOR EACH ITEM; CIRCLE ONLY ONE ANSWER FOR EACH ITEM)	Diabetes Mellitus.....	Yes.....1 No.....2	
		Heart disease.....	Yes.....1 No.....2	
		High blood cholesterol.....	Yes.....1 No.....2	
		Hypertension/high blood pressure.....	Yes.....1 No.....2	
		Cancer.....	Yes.....1 No.....2	
		Overweight / Obesity.....	Yes.....1 No.....2	
he2	Do you currently smoke?	Yes..... No, but smoked previously..... Yes, occasionally..... No, never smoked.....	1 2 3 4	
he3	What do you smoke most of the time?	Cigarettes..... Pipe..... Hookah pipe..... Marijuana	1 2 3 4	
he4	Do you ever drink any alcohol?	Yes..... No.....	1 2	
he5	Do you ever exercise?	Yes..... No.....	1 2	
he6	How many days a week do you usually do at least 20 minutes of the following type of exercise?	A. Walking B. Moderate exercise..... C. Vigorous exercise	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
he7	For how many hours in an average week, do you watch movies / television / series/ play electronic games	<1 hour per week..... 1-3 hrs / week..... 4-7hrs / week..... 8-14hrs / week (2hrs/day)..... 15-21hrs / week (3hrs/day)..... >21hrs/week.....	1 2 3 4 5 6	
he8	How do you perceive your own weight?	Underweight..... Normal weight..... Overweight..... Obese.....	1 2 3 4	

he9		I pay attention to the information on a package like “no sugar added”, “unsweetened”	True.....1 False.....2	
he10	Is the following statement true or false when you shop for food?	I am aware that nutrition information is printed on the back of a food package.	True.....1 False.....2	
he11		I understand the nutrition information printed on the back of the food package.	True.....1 False.....2	

RESILIENCE

Abbreviated Nicholson McBride Resilience Questionnaire (NMRQ)

Carefully read the statements below. For each statement, score yourself between 1 and 5 by circling the relevant number where 1 = strongly disagree and 5 = strongly agree. Be honest. Please remember that there is no right or wrong answer, we are just trying to get an understanding of your perception.

		Strongly disagree	Strongly agree
rs1	In a difficult spot, I turn at once to what can be done to put things right	1.....2.....3.....4.....5	
rs2	I influence where I can, rather than worrying about what I can't influence	1.....2.....3.....4.....5	
rs3	I don't take criticism personally	1.....2.....3.....4.....5	
rs4	I generally manage to keep things in perspective	1.....2.....3.....4.....5	
rs5	I am calm in a crisis	1.....2.....3.....4.....5	
rs6	I am good at finding solutions to problems	1.....2.....3.....4.....5	
rs7	I would not describe myself as an anxious person	1.....2.....3.....4.....5	
rs8	I do not tend to avoid conflict	1.....2.....3.....4.....5	
rs9	I try to control events rather than being a victim of circumstances	1.....2.....3.....4.....5	
rs10	I trust my intuition	1.....2.....3.....4.....5	
rs11	I manage my stress levels well	1.....2.....3.....4.....5	
rs12	I feel confident and secure in my position	1.....2.....3.....4.....5	

THANK PARTICIPANT FOR TAKING TIME TO COMPLETE THE QUESTIONNAIRE

INDIVIDUAL CHARACTERISTICS

Hh	Unique number	Interviewer id / sequence hh □□ / □□□	Inr_di	Respondent line number_diet	Interviewer id / sequence hh / line no □□ / □□□ / □
Sex	Sex	M / F	age	Age of respondent	□□

NO.	IMIBUZO	IIMPENDULO	TSIBA
gc1	Bangaphi abantwana kwelikhaya abazalwa nguwe?	□□	
gc2	Ingaba unabo abantwana abasaphilayo abazawa nguwe abangahlali kweli khaya?	□□	
gc3	Ingaba sithini isimo sakho sengqesho	Awuphangeli..... 1 Uyazisebenzela?..... 2 Wamkela umvuzo..... 3 Usebenza ngamaxeshathile..... 4 Umsebenzi wexeshana..... 5 okunye (cacisa)..... 99	
gc4	Sithini isimo Somtshato?	Awutshatanga?..... 1 Utshatile 2 Umhlokokazi ongekaphindi atshate?..... 3 Umtshato waqhawuka awukaphindi utshate..... 4 Utshatile kodwa nohlukene 5 Uyahlalisana..... 6 okunye (cacisa)..... 99	Ukuba uyiNdoda tsibauyikwicandelo lemibuzo u gc7
gc5	IMIBUZO EBHEKISE KUBANTU BASE TYHINI Ingaba wagqibela nini ukukhulelwa?	Awuzange wakhulelwa..... 77 Ukhulelwe ngoku? 0 Lixesha elingakanani wogibela ukukhulelwa A.iminyaka □□ or B.linyanga □□	ukuba ugqibele ukukhulelwa ngaphezulu kwiminyaka emibini tsiba uye kwicandelo gc7
gc6	IMIBUZO EBHEKISE KUBANTU BASE TYHINI Ingaba uyili ncancisa usana lwakho?	Ewe 1 Hayi..... 2	Buza lombuzo ukuba ugqibele ukukhulelwa ngaphezulu kwiminyaka emibini
gc7	Ingaba wena okanye abazali bakho nakhe naxhamla kwi sibonelelo senxaso mali yaba ntwana?	Ewe 1 Hayi..... 2	
gc8	Ukuba kunjalo, waxhamla iminyaka emingaphi?	years □□	Only ask if received CSG



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gc9	Wawukhe wakufumana ukutya kwisibonelelo sesondlo sase sikolweni?	Ewe 1 Hayi..... 2	
gc10	Ukuba kunjalo uxhamle ixesha elingakanani?	years <input type="text"/> <input type="text"/>	Only ask if received

HEALTH

he1	Ingaba wawukhe wafunyasiwa ngugqirha nezi zifo zilandelayo? (NIKA IMPENDULO IBENYE KWISIGULO NGASINYE)	Isifo se swekile..... Ewe.....1 Hayi.....2	
		Isifo sentliziyo..... Ewe.....1 Hayi.....2	
		I-cholesterol yegazi Ewe.....1 Hayi.....2	
		uxinzelelo lwegazi oluphezulu Ewe.....1 Hayi.....2	
		Isifo somhlaza..... Ewe.....1 Hayi.....2	
		Ukutyebe okugqithisileyo..... Ewe.....1 Hayi.....2	
he2	Ingaba uyatshaya?	Ewe..... 1 Hayi, kodwa sendike nda tshaya ngaphambili..... 2 Ewe, ngamanye amaxesha..... 3 Hayi, zange ndatshaya..... 4	
he3	Yeyiphi eyona uyitshaya rhoqo?	Cigarettes..... 1 Pipe..... 2 Hookah pipe..... 3 intsangu 4	
he4	Ingaba uyasisela isiselo esinxilisayo?	Ewe..... 1 Hayi..... 2	
he5	Ingaba uyazi lolonga?	Ewe..... 1 Hayi..... 2	
he6	Ingaba zingaphi instuku evekini ozilolonga ngazo ixeshi eli ngamashumi amabini emizuzu kwezintlobo zokuzilolonga zilandelayo?	A. ukuhamba <input type="text"/> B. ukuzilolonga okuphakathi..... <input type="text"/> C. ukuzilolonga ngamandla <input type="text"/>	
he7	Uchitha iyure ezingaphi evekini ubukele lifilimu/ umabonakude /	<1 yure nge veki..... 1 1-3 yure ngeveki..... 2 4- yure ngeveki..... 3	

	/ okanye udlala imidlalo yekhomyutha	8-14 yure ngeveki (2hrs ngemini)..... 4 15-21 yure ngeveki (3hrs ngemini)..... 5 >21 yure ngeveki 6	
he8	Ingaba ububona njani ubunzima bo mzimba wakho?	ngaphantsi komzimba..... 1 Umlinganiselo oqhelekileyo 2 Ubunzima obugqithisileyo..... 3 Ukutyeba 4 okugqithisileyo.....	
he9	Xa uthenga ukunya ingaba lengxelo	Ndithatha ingqwalasela kwinkcukacha esise phakhejini ezifana "no sugar added", "unsweetened"	Yinyani.....1 Ayonyani.....2
he10	ilandelayo yinyani okanye ayo nyani?	Ndiyayazi ukuba inkcukacha zokondleka zikhona emva khwe phakheji yokutya.	Yinyani.....1 Ayonyani.....2
he11		Ndiyaziqonda inkcukacha zokondleka ezibhalwe emva kwi phakheji uyokutya	Yinyani.....1 Ayonyani.....2



RESILIENCE

Abbreviated Nicholson McBride Resilience Questionnaire (NMRQ)

Carefully read the statements below. For each statement, score yourself between 1 and 5 by circling the relevant number where 1 = strongly disagree and 5 = strongly agree. Be honest. Please remember that there is no right or wrong answer, we are just trying to get an understanding of your perception.

		andivumi kwaphela	ndiyavuma
rs1	Kwisimo esinzima ndiye ndijonge yintoni endinokuyenza ukuze izinto zilunge	1.....2.....3.....4.....5	
rs2	Ndifaka ifuthe lempembelelo apho ndifumene ithuba khona, kunokuba ndikhathazeke yinto endinongakwazi ukuyitshintsha	1.....2.....3.....4.....5	
rs3	Ukugxekwa ayonto indikhathazayo	1.....2.....3.....4.....5	
rs4	Ndiyakwazi ukulawula nokugcina izinto ngendlela ebonakalayo	1.....2.....3.....4.....5	
rs5	Xa kukho ingxaki ndiyathobeka	1.....2.....3.....4.....5	
rs6	Ndine sakhono sokuza nesi sombululo apho kukho ingxaki	1.....2.....3.....4.....5	
rs7	Andinokuzichaza njengomntu oxhalabayo	1.....2.....3.....4.....5	
rs8	Andingumntu obalekayo xa kukho ungquzulwano	1.....2.....3.....4.....5	
rs9	Ndiye ndizame ukuzilawula iziganeko kunokuba ndibelixhoba leziphumo	1.....2.....3.....4.....5	
rs10	Ndiyathemba intuition yam	1.....2.....3.....4.....5	
rs11	Andiyakwazi ukulawula izinga loxinezelelo endikulo	1.....2.....3.....4.....5	
rs12	Ndikholosile yaye ndikhuselekile kwisikhundla sam	1.....2.....3.....4.....5	

PERSOONLIKE EIENSAPPE

hh	Unique number	Interviewer id / sequence hh □□ / □□□	lnr_di	Respondent line number_diet	Interviewer id / sequence hh / line no □□ / □□□ / □
Sex	Sex	M / F	age	Age of respondent	□□

No.	QUESTIONS	ANSWERS	SKIPS
gc1	Hoeveel van die kinders in hierdie huishouding is jou eie?	□□	
gc2	Het jy enige ander oorlewende kinders wat nie op die oomblik by jou in hierdie huishouding bly nie?	□□	
gc3	Wat is jou werk status?	Werkloos..... 1 Werk vir jouself..... 2 Salaristrekker..... 3 Deeltydse werk..... 4 Dagloner ("casual")..... 5 Other (specify)..... 99	
gc4	Wat is jou huwelikstaat?	Ongetroud..... 1 Getroud..... 2 Weduwee en nie weer getroud.. 3 Geskei en nie weer getroud..... 4 Getroud maar leef apart..... 5 Woon saam..... 6 Other specify)..... 99	Skip to Question he1 if respondent is male
gc5	VROULIKE DEELNEMERS Hoe lank gelede was jy swanger?	Nooit swanger..... 77 Tans swanger..... 0 Tyd sedert vorige swangerskap A. or □□ jaar B. □□ mde	Skip to question gc7 if time since last pregnancy is >= 2 years/ never
gc6	VROULIKE DEELNEMERS Borsvoed jy op die oomblik?	Ja..... 1 Nee..... 2	Only ask question if time since last pregnancy is <2years
gc7	Het jy / jou ouers ooit 'n kindertoelaag (CSG) vir jou gekry?	Ja..... 1 Nee..... 2	
gc8	Indien ja, vir hoe lank het jy die CSG ontvang?	□□ jaar	Only ask if received CSG
gc9	Het jy ooit van die skoolvoedingskema kos ontvang	Ja..... 1 Nee..... 2	
gc10	Indien ja, vir hoe lank het jy skoolvoedingskema ontvang?	□□ jaar	Only ask if received

GESONDHEID

he1	Het 'n professionele persoon jou ooit gediagnoseer met een van die volgende siektes <i>(NOEM ELKE ITEM; OMKRING SLEGS EEN ANTWOORD VIR ELKE ITEM)</i>	Diabetes Mellitus.....	Ja.....1 Nee.....2	
		Hart siekte.....	Ja.....1 Nee.....2	
		Hoë cholesterol.....	Ja.....1 Nee.....2	
		Hipertensie / Hoë bloeddruk.....	Ja.....1 Nee.....2	
		Kanker.....	Ja.....1 Nee.....2	
		Oorgewig / vetsug.....	Ja.....1 Nee.....2	
he2	Rook u?	Ja.....	1	
		Nee, maar het voorheen gerook.....	2	
		Ja, per geleentheid.....	3	
		Nee, ek het nog nooit gerook nie.....	4	
he3	Wat rook u meeste van die tyd?	Sigarette.....	1	
		Pyp.....	2	
		Hookah pyp.....	3	
		Marijuana	4	
he4	Drink u enige alkohol?	Ja.....	1	
		Nee.....	2	
he5	Doen u enige oefening?	Ja.....	1	
		Nee.....	2	
he6	Hoeveel dae van die week doen u ten minste 20 minute van die volgende tipe oefening?	A. Stap.....	<input type="checkbox"/>	
		B. Matige oefening.....	<input type="checkbox"/>	
		C. Harde (vigorous) oefening	<input type="checkbox"/>	
he7	Hoeveel ure per week kyk u televisie / films / series/ speel rekenaar of elektroniese speletjies?	<1 uur per week.....	1	
		1-3 ure / week.....	2	
		4-7 ure / week.....	3	
		8-14ure / week (2ure/dag).....	4	
		15-21ure / week (3ure/dag).....	5	
		>21ure/week.....	6	
he8	Hoe beoordeel u u eie gewig?	Te maer (ondergewig).....	1	
		Normale gewig.....	2	
		Oorgewig.....	3	
		Vetsugtig.....	4	
			

oorgew ig9	Is die volgende stelling van toepassing wanneer u inkopies vir kos doen?	Ek slaan ag op inligting op kosprodukte soos "suikervry"	Waar.....1 Onwaar.....2	
he10		Ek is bewus daarvan dat voedinginligting op die agterkant van kosprodukte gedruk word	Waar.....1 Onwaar.....2	
he11		Ek verstaan die voedinginligting wat op die agterkant van kosprodukte gedruk word.	Waar.....10 nwaar.....2	

RESILIENCE

Abbreviated Nicholson McBride Resilience Questionnaire (NMRQ)

Lees die stellings hieronder versigtig deur. Evalueer jousef ten opsigte van elke stelling op 'n skaal van 1 tot 5 waar 1 = stem glad nie saam nie en 5 = stem heelhartig saam. Wees eerlik. Onthou dat daar geen regte of verkeerde antwoorde is nie. Ons probeer jou persoonlike opinie bepaal.

		Strongly disagree	Strongly agree
rs1	Wanneer daar 'n problem is, probeer ek altyd uitvind wat ek kan doen om sake reg te stel	1.....2.....3.....4.....5	
rs2	Ek probeer invloed uitoefen waar ek kan ipv om my te bekommer oor die dinge wat ek nie kan verander nie	1.....2.....3.....4.....5	
rs3	Ek neem nie kritiek persoonlik nie	1.....2.....3.....4.....5	
rs4	Oor die algemeen behou ek perspektief	1.....2.....3.....4.....5	
rs5	Ek bly kalm in 'n crises	1.....2.....3.....4.....5	
rs6	Ek is goed daarmee om oplossings vir probleme te vind	1.....2.....3.....4.....5	
rs7	Ek is nie 'n angstige person nie	1.....2.....3.....4.....5	
rs8	Ek probeer om nie konflik te vermy nie	1.....2.....3.....4.....5	
rs9	Ek probeer om omstandighede te beheer liever as om die slagoffer van omstandighede te wees	1.....2.....3.....4.....5	
rs10	Ek vertrou my intuïsie	1.....2.....3.....4.....5	
rs11	Ek beheer my spannings vlakke goed	1.....2.....3.....4.....5	
rs12	Ek is vol selfvertroue en voel gemaklik in myself	1.....2.....3.....4.....5	

BEDANK DEELNEMER VIR DIE TYD OM DIE VRAELYS TE VOLTOOI.



UNIVERSITY of the
WESTERN CAPE

FACULTY OF COMMUNITY AND HEALTH SCIENCES
DEPARTMENT OF DIETETICS AND NUTRITION



20 September 2020

The Chairperson
Higher Degrees Committee
Faculty of Community and Health Sciences
University of the Western Cape
Robert Sobukwe Road
BELLVILLE
7535

Dear Sir

PERMISSION TO DO SECONDARY DATA ANALYSES ON EXISTING DATA

I am the PI on the research project "Nutrition capabilities of the youth" (BMREC 19/3/4) conducted in Fisantekraal during 2019.

Hereby I grant permission to Adilah Petersen (student number 3152559) to use selected variables from this study towards her mini-thesis for the Masters in Public Health Nutrition. She will have access to anonymized data only.

Kind regards

RINA SWART

Supervisor & PI: Nutrition capabilities of the youth BM19/3/4

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