

**DEVELOPMENT OF A POLICY FRAMEWORK FOR THE  
ESTABLISHMENT OF PHYSICAL EXERCISE  
PROGRAMMES IN REDUCING NON-COMMUNICABLE  
DISEASES IN THE PROVINCE OF KWAZULU-NATAL,  
SOUTH AFRICA**

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Health Sciences in the Faculty of Health Sciences at the Durban University of  
Technology

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## Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

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Signature of student

9 June 2022

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## **Abstract**

### **Background**

This study follows a mixed method methodology, and researched tenets of physical exercise beneficial to health. The study took place in eThekweni Municipality among members of physical exercise clubs, trainers and administrators. The study population comprised of urban, township and rural areas. The participants included scholars, the youth, and elderly populations. The participants were questioned as to whether they had pre-existing chronic cardiac disease, or related non-communicable diseases.

### **Aim**

The aim of this study was to develop a policy framework for physical activity in adult communities in the province of KwaZulu-Natal, South Africa.

### **Methodology**

The study follows an exploratory, sequential mixed methods approach that begins with a qualitative phase, where experts, trainers, and government officials were interviewed on their observations and role in supporting the physical exercise programmes. The interviews were conducted on a one-to-one basis and took an average of forty-five (45) minutes. This was followed by the quantitative phase that involved conducting a survey by questionnaire on participants in physical exercise programmes. Fifteen participants consisting of two government officials, eight trainers and five experts were interviewed during the qualitative phase and a total of 364 participants participated in the survey, with 224 females and 140 males, where 25% of the participants were students. A proportion of 15.6% of the participants came from rural areas, whereas 43% came from urban areas, with the remainder residing in townships and informal areas.

## **Findings**

The results indicated that 84% of the respondents participated in physical exercise programmes or sport while at school, 89% participated in exercise or sporting programme while at school, with a value of  $p < .001$ . A proportion of 93% of participants did not suffer from chronic heart disease or hypertension and 60% were not offered health check-ups by facilities whereas a significant 68% of facilities ONLY offered for a health check-up when participants were ill or injured,  $p < .001$ . Using a one sample t-test, there was significant agreement that facilities were adequate and in good condition,  $p < .001$ ; and that the usage of these facilities and what was found to be on offer was acceptable/good,  $p < .001$ . In terms of physical exercise intensity, the findings indicated that a significant 86% of participants took part in mild exercise regularly, and a significant number took up to 90 minutes a day,  $p < .001$ . A significant 67% of participants performed moderate exercise regularly for up to 90 minutes a day. Whereas a significant 82% participated in vigorous exercise regularly, for 45-90 minutes a day,  $p < .001$ .

The conclusion of the study is that early initiation of PE in schools contributed to long term health benefits like a lower number of participants with NCDs such as obesity and chronic heart diseases, lower incidents of NCDs were found in physically active individuals and the health benefits are not dependent on intensity of exercise but on consistent exercise whether mild, moderate or vigorous. The study identified a gulf in urban-rural infrastructure availability and usage. The study results are important and contribute to the introduction of physical exercise programmes in schools as part of health promotion, to lobby for development of community recreational facilities and training facilities in rural and urban areas.

## **Key words:**

Physical Education

Non-communicable diseases

Physical activity

Physical exercise facility

Health check-ups

## **Dedication**

It is unfortunate that this study has been completed after my mother has passed on. She played a significant role in raising me and being a role model. She dedicated her working life as a single parent to making certain that her children were fed and educated. The love and effort put into this academic work is a small contribution I make to the world in her honour.

Thank you for your dedication to your boys.

Babongile Ntombikayise Gumede, called to rest on 23/12/2020.

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## **Glossary of terms**

**Healthy lifestyle:** Refers to having a balanced diet, exercising regularly, avoiding tobacco smoking, avoiding drug abuse and taking alcohol in moderation.

**Health promotion:** Promoting health-seeking behaviour.

**Non-communicable diseases:** A non-infectious medical condition, chronic in nature or long duration. May be a result of genetic, physiological environmental or behavioural factors.

**Physical education:** It is the basis for a school comprehensive physical activity programme and must include both cognitive and physical instruction content.

**Physical activity:** Refers to bodily movement produced by muscle that requires energy expenditure.

**Exercise intensity:** Physical activity can be mild, moderate and vigorous. Moderate and vigorous activity improve health.

## List of acronyms

ANOVA	Analysis of variance
CDC/ACSM	Centre for Disease Control/American College of Sport Medicine
CHARMING	Choosing Active Role Models to Inspire Girls
CHDS	Coronary heart diseases
COVID-19	Coronavirus disease 2019
CSPAP	Comprehensive School Physical Activity Programme
DALYS	Death and Disability Adjusted Life Years
DPAS	WHO Global Strategy on Diet, Physical Activity and Health
DSD	Department of Social Development
DUT	Durban University of Technology
FAC	State of Facilities
GDP	Gross Domestic Product
IAAF	International Association of Athletics Federations
KILOCAL	Kilocalories
KZN	KwaZulu-Natal
LFA	Local Football Associations
METS	Metabolic Equivalents
MOU	Memorandum of Understanding
NCDs	Non-Communicable Diseases
PE	Physical Education
SCN	Sports Council for Northern Ireland
SPSS	Statistical Product and Service Solutions
UKZN	University of KwaZulu-Natal
USE	Conditions of Usage of Facilities
WHA	World Health Assembly
WHO	World Health Organisation

# **CHAPTER 1**

## **INTRODUCTION AND OVERVIEW OF THE STUDY**

### **1.1 INTRODUCTION AND BACKGROUND TO THE STUDY**

South Africa is facing a rise in non-communicable diseases (NCDs) and diseases of lifestyle like diabetes mellitus, hypertension, cholesterolaemia, obesity and cancers, as reported by Mayosi *et al* (2009: b934-947). Mayosi *et al.* (2009) further outline the health status of the post-apartheid South Africa as a quadruple burden of communicable, non-communicable, perinatal, maternal and injury-related disorders. The authors (*ibid.*) highlighted that the challenge of non-communicable diseases was emerging in both rural and urban areas, concluding by calling for an integrated care intervention for chronic and non-communicable diseases. Nowbar *et al* (2019) confirms that Ischaemic heart disease (IHD) remains the single largest cause of death in countries of all income groups. He also indicates a rise in hypertension in developing countries and a rise in global obesity.

To overcome the NCD challenges, African health ministers adopted the Brazzaville Declaration in 2011, committing the Continent to fight against the growing trend of NCDs. It also committed to developing strategies to prevent and control the NCD epidemic (WHO 2013). The Brazzaville Declaration emphasised the need for people to engage in healthier life practices, like exercising on a regular basis, eating healthier and reducing stress levels. The (WHO 2013) identified East/Southern Africa as among the countries with the highest prevalence of physical inactivity, for example, physical inactivity ranged from 6.6% in Mozambique to 66.5% in Swaziland, with a median of 22%, with women having the highest inactivity. This was identified as a risk to sudden death and onset of NCDs (WHO 2013).

Boutayeb and Boutayeb (2005) in Table 1.1 indicate the growth of non-communicable diseases in the world from 1990 to 2020. The prediction by Boutayeb and Boutayeb (2005) for the growth in 2020 is validated in a study by Azadnajafabad *et al* (2021) who identifies non-communicable diseases as the biggest cause of premature mortality and disability in the world that places a burden on global healthcare systems especially in developing countries.

Azadnajafabad *et al* (2021) indicate that 80% of NCD death occurs in middle- and low-income countries. Using Iran as an example of a middle-income country, he confirms that 83.5% (95% UI: 82.6–84.3) of all deaths and 78.1% (95% UI: 76.2–80.1) of all burden of diseases were due to this group of diseases in 2019.

Azadnajafabad *et al* (2021) further identify that low or insufficient physical activity (IPA) is one of the major behavioural risk factors of diseases, accounting for 4.4% (95% UI: 2.4–7.2) of deaths and 1.9% (95% UI: 1.1–3.2) of DALYs of NCDs in 2019 in Iran. The WHO advocates for the adoption of wellness or healthy lifestyle programmes in The Healthy Lifestyle Programme Policy Framework (WHO 1999). This framework is an intervention programme to arrest the worsening situation. The WHO further advocates for a combination of good nutrition, increased physical activity or exercise, and reduction of obesity for consideration as a basis of a healthy lifestyle programme (WHO 2014).

Kujala (2021) looks at met-analyses of randomised controlled studies done in chronic patients between 2000 and January 2021 and concludes that prescribing exercise therapy to chronic patients has health benefits and proposes that physicians should consider prescribing exercise to their patients with chronic conditions to improve their physical fitness, mood, and health-related quality of life and to slow down the progression of disease.

**Table 1.1: Evolution of NCDs in developing countries (in million)**

	<b>Non-Communicable diseases</b>	<b>Communicable diseases+ Maternal+ Perinatal Nutrition</b>	<b>Injuries</b>	<b>Total</b>
1990	18.7 (47%)	16.6 (42%)	4.2 (11%)	39.5 (100%)
2000	25.0 (56%)	14.6 (33%)	5.0 (11%)	45 (100%)
2020	36.6 (69%)	9 (16%)	7.4 (14%)	53 (100%)

Source: Boutayeb and Boutayeb (2005)

Dalal *et al.* (2011: 885-901) indicated that sparse information on the risk factors is available in Southern Africa on the impact of NCDs, and therefore proposed that further studies be conducted. They further identified a dichotomy that exists in South Africa, where both stunting and being underweight existed in children, while obesity and overweight concurrently existed in the same population.

Ballin and Nordström (2021) reports on random controlled tests and results suggest that exercise in patients with coronary heart disease and heart failure does not reduce all-cause or cardiovascular mortality. The study focuses on the Look AHEAD study and notes that although observational studies consider physical activity and exercise to be fundamental to overall health and longevity, however randomised control tests (RCT) evidence presented in this review, disputed some of these assertions and the effects of physical activity seem unsupported especially as it related to premature death and cardiovascular diseases and certain shortcomings related to bias were speculated to be the cause of the non-agreement. This contradicts the commonly held view of the benefits of physical exercise on CVD and reduction of mortality as in observational studies.

Marrero *et al.* (2012: 2037-2038) confirmed that NCDs are a global challenge and advocated for remedial action to reduce these globally. South Africa is not immune to this problem, and therefore the government had also identified the burgeoning number of people with NCDs due to their lifestyle. This has had an impact on the health budget, and therefore required remedial action (WHO 1999). The WHO has cautioned countries against embarking on the implementation of the policy of tackling NCDs without a clear financial budget, such that cost effectiveness go together with health impact, as envisaged. The WHO (1999) further estimated that approximately US\$ 170 billion equivalent to R1 037 trillion, was needed to offer “best-buy” NCD interventions to scale in all low- and middle-income countries over the period from 2011–2025 (equivalent to US\$ 1–3 per capita).

The Department of Sport, Arts and Culture in its policy pronouncements in the White Paper on Sport and Recreation, Burnett and Dance (2010), acknowledged low physical activity participation by the society in general, and emphasised the health value such programmes could bring if recreational programmes were introduced into the mainstream. Unfortunately, no framework existed to streamline such in communities, workplace, and schools and therefore the need to conduct such a study that would develop a policy framework.

In a meta-analysis, Bauman and Craig (2005) confirm a constant correlation between physical inactivity and cardiovascular diseases. This study resulted in the US Surgeon General’s report advocating for physical activity health related targets. The Agita São Paulo Programme, which is a health promotion programme helped to improve physical activity significantly, it also contributed to a new way of thinking about health thereby changing behaviour of participants.

Matsudo *et al.* (2003:265-272) observe that the gist of the programme related to the use of health promotion together with a scientific approach to exercise. They assert that this approach results in an improved and healthier lifestyle of the

population of Sao Paulo after it was introduced. Matsudo *et al.* (2003) observe that surveys done pre- and post-implementation in 1999 and in 2002 on participants showed that there had been an increase in the proportion of persons who were physically active and who participated in daily walks of at least 30 minutes a day for five or more days a week. The survey also suggested that these people were unlikely to stop their routine.

The WHO ECHO (2016) conducted research on obesity prevention in four life-course stages: peri-conception; pregnancy; infancy and toddlerhood (0 to 23 months); and early childhood (24 to 59 months) by physical exercise intervention. Reilly *et al.* (2019) conducts a rapid review of systematic reviews in order to identify elements of physical activity interventions in the four life-course stages and concludes that obesity prevention interventions might benefit more from targeting pre-conception and pregnancy, and targeting these periods for physical activity interventions should have important added benefits, beyond obesity prevention (e.g. managing gestational weight gain and pregnancy and delivery-related complications, which are related to it. He also concludes that interventions should be multifaceted and not only focus on physical exercise but include health promotion facets as well.

## **1.2 PROBLEM STATEMENT**

In the year 2000, the World Health Assembly (WHA) took resolution WHA53.17, where the aim of the resolution was to encourage the World Health Organisation (WHO) to provide leadership in combating physical inactivity and associated risk factors (World Health Organisation 2007). Mackness *et al.* (2003: 2775-2779) deduced from a study that took place in Caerphilly that had followed men between the ages of 45-59 over thirty years (30) revealed that when exercise had been embarked upon, a reduction of diabetes, vascular disease, cancer, and death had occurred. Elwood *et al.* (2013) also assert these findings, noting that 60% of 56 million deaths in the world in 2004 were attributable to NCDs. Similar findings were



reported by Chu *et al.* (2009) and these results highlighted the need for the different countries to embark on a campaign to popularise healthy lifestyle programmes in order to avert an NCD outbreak (WHO 2007).

Sallis, Bauman, and Pratt (1998: 379-397) argue that, despite the evidence of the positive impact of exercise programmes on NCDs, there was a lack of conceptual models to put together policies, as well as a lack of policy coherence in the application of exercise programmes, and a lack of information and expertise to inculcate a culture of healthy lifestyle in society. Chu *et al.* (2009) indicates that 60% of the 56 million deaths in 2004 were attributable to NCDs, as outlined above.

Juma *et al.* (2018) looks at NCD prevention policies in African countries and concludes that generally, there is weak implementation of the proposed unhealthy diet and physical activity interventions in the study countries. This study therefore identifies a need to develop evidence-based policies that can be used to develop physical exercise programmes. The application of the policies is intended to ensure that KwaZulu-Natal (KZN), especially the eThekweni municipal area would have a healthier population and reduce their spending on medical intervention on NCDs. Haskell *et al.* (2007: 1423-1434) concede that the NCD emergence is a global challenge, where governments including South Africa would not be immune to this trend, necessitating plans to combat and reduce the spread of these lifestyle diseases by enacting laws and introducing programmes that aimed to promote healthier life practices like exercising on a regular basis, eating healthier, and reducing stress levels.

Chu *et al.* (2009) deduces from the literature that engaging regular exercise and eating healthier contributes to a reduction of NCDs to the extent that medical intervention is delayed or reduced. He further identified ample evidence that engaging in physical exercise programmes improves life expectancy of people with life-threatening NCDs.

The WHO (2014) identifies the metabolic risk factors that contribute the most to NCDs to be raised blood pressure, overweight/obesity, hyperglycemia (high blood glucose levels), and hyperlipidemia (high levels of fat in the blood), which can be alleviated by introducing physical exercise programmes in the community. Based on the evidence in research, one of the objectives of this study was therefore to determine whether those participants with pre-existing cardiovascular disease who participated in physical activity programmes had reduced or stopped taking medicines; or those that had required surgical intervention saw any improvement, resulting in abandoning of undergoing such procedures.

### **1.3 AIM OF THE STUDY**

The aim of the study was to develop a policy framework for physical activity in adult communities in the province of KZN, South Africa.

### **1.4 OBJECTIVES OF THE STUDY**

The objectives of the study were to:

1. Determine the variables, dimensions and elements that would inform the policy framework development. This refers to whether customisation for setting e.g. urban, rural, youth, elderly, chronically ill or child is necessary;
2. Evaluate the extent to which the social and economic dynamics of the population under review will affect the policy. This refers to social standing whether poor or rich, educated or not and employed or not;
3. Assess the cardiovascular status of the target population impacted by physical exercise;
4. Determine the elements required to develop a policy framework for developing physical activity programmes in KZN; this refers to technical aspects of physical exercise and tools critical to deliver a successful programme; and

5. Identify the challenges that hinder the setting up of physical exercise programmes.

## **1.5 RESEARCH QUESTIONS**

- What is the impact of physical activity programmes on NCDs?
- How do you introduce physical exercise programmes in communities?
- Are there consequences if no physical exercise programmes are introduced?
- Does South Africa have a physical exercise framework or policy?
- Which policies or legislation support physical exercise (PE) programmes?
- How would you introduce different elements in formulating a physical exercise framework?

## **1.6 SIGNIFICANCE OF THE STUDY**

Evans (1997) highlights that participating in sport and physical activity for children is a critical site of influence upon children's thinking about themselves and others, both in physical activity and sport. Trew *et al.* (1997) outlines evidence of the positive impact of physical activity in *Women in Sport Policy Framework*, especially if led by women teachers in promoting equity and greater participation of girls in physical activity in schools and the participation of women at all levels of society at school, community level, and general participation in sport. Bailey (2005) emphasises that, by encouraging physical activity, one is indirectly contributing to the attainment of social inclusion and development of social capital in the population. One of the significant outcomes of the study is to inculcate a culture of community participation in physical activity. As espoused by the WHO (2004), mass participation promotes equity, as more women would be encouraged to participate, and non-communicable diseases would be heavily impacted if more people participated in regular physical exercise programmes. Theoretical contribution of the study is answering whether physical exercise improves health or reduces NCDs and if PE reduces death. Whether the intensity of exercise has

any health benefits and if gender is a factor in accessing PE services and if rural-urban setting and social status contributed or had an impact on outcomes of PE programmes.

## 1.7 STRUCTURE OF THE THESIS

<b>Chapter 1</b>	<b>ORIENTATION TO THE STUDY</b> Introduces the study, the chapter covers contextual issues around the study, the research questions, research objectives, as well as the significance of the study.
<b>Chapter 2</b>	<b>LITERATURE REVIEW</b> Discusses literature review and outlines the research.
<b>Chapter 3</b>	<b>THEORETICAL FRAMEWORK</b> Details the theoretical framework in detail and the philosophical paradigm and methods applied to address the research questions or objectives of the study.
<b>Chapter 4</b>	<b>RESEARCH DESIGN AND METHODOLOGY</b> Presents the research design and methodology that guided the study.
<b>Chapter 5</b>	<b>PRESENTATION OF FINDINGS: PHASE 1 (QUALITATIVE DATA)</b> Presents the findings of the qualitative data.
<b>Chapter 6</b>	<b>PRESENTATION OF THE FINDINGS: PHASE 2 (QUANTITATIVE DATA)</b> Presents the findings of the quantitative data.
<b>Chapter 7</b>	<b>INTEGRATION OF FINDINGS OF PHASE 1 AND PHASE 2</b> Presents the merged findings from phases 1 and 2.
<b>Chapter 8</b>	<b>DISCUSSION OF FINDINGS</b> Discusses the findings in relation to existing literature, the study limitation and avenues for further research.
<b>Chapter 9</b>	<b>A POLICY FRAMEWORK FOR THE ESTABLISHMENT OF PHYSICAL EXERCISE PROGRAMMES IN REDUCING NCDS</b> This chapter presents a developed policy framework.
<b>Chapter 10</b>	<b>SUMMARY, LIMITATIONS, CONCLUSION AND RECOMMENDATIONS OF THE STUDY</b> This chapter concludes by presenting the conclusion, limitations and recommendation.

## **1.8 SUMMARY OF THE CHAPTER**

This chapter provided an overview of the study. The objectives and research questions that guided the study together with the problem statement were outlined. The next chapter will review relevant literature on the impact of physical activity programmes on NCDs, strategies to introduce physical activity programmes and analyse existing physical activity policies in South Africa and beyond.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Rowley and Slack (2004) describe a literature review as a summary of a subject field that supports the identification of specific research questions. They further indicate that its purpose is to consolidate available literature on the subject field from different available sources and platforms. For this reason, one must then be able to distil the information and identify key information to support the research questions, identify literature to increase knowledge on the subject matter, gather more understanding of the research concepts, and be able to identify research methods and finally be able to analyse results.

Hart (2018) outlines the role of literature review as a mechanism to identify ideas, views, and methods that you can apply to enhance your own research. He further highlights the importance of using literature review as evidence. Literature review in this study gathers existing knowledge, identifies methods that have been used to implement physical exercise programmes, and outlines successful programmes and that which has contributed to their success.

#### **2.2 PROCESS OF SOURCING RELEVANT LITERATURE**

Sources of information are vast and exhaustive, and it is crucial to find the most appropriate process of sourcing data. Data source mining in qualitative studies can be done through sampling, which could be purposeful and theoretical sampling, or exhaustive. Purposeful random sampling has been applied in this study as outlined by Patton (2002), to reduce the volume of information, be more purposeful, and direct on topic at hand to reduce own judgement. Data sources used include Google Scholar, Springer, The Lancet, and others. The key words used include

non-communicable diseases, healthy lifestyle, and impact on NCDs, physical exercise programmes, policy of physical activity, policy development framework.

## **2.3 IMPACT OF NON-COMMUNICABLE DISEASES IN SOCIETY**

In Rotterdam, Hofman *et al.* (2013: 889-926) extrapolate the accumulated losses of a country's gross domestic product (GDP) due to NCDs as astronomical. This indicates that if NCDs are not curbed they have a potential to bankrupt the economy of countries. In the case of South Africa's GDP, between 2006 and 2015, the financial losses from diabetes, stroke and coronary heart disease alone are estimated to cost the country US\$1.88 billion equivalent to (R29. 6 billion) in 2015 exchange rate. This has prompted government to avert the potential impact by introducing taxation, which was imposed on sugary drinks on the population. The estimation is that, if effective, it would reduce the number of obese people by 220 000 in three years (Hofman 2014). This highlighted the need for South Africa to develop a policy framework to circumvent the proliferation of such conditions with a grave impact on society.

In 2016, the South African Department of Health promulgated mandatory salt regulations, expecting that the impact on society would result in a total of 6 400 lives saved from stroke, 4 300 from non-fatal stroke, and hospitalisation would be reduced, saving an estimated amount of R300 million annually. Joubert *et al.* (2007: 725-731) discovered that South Africa had a high prevalence of physical inactivity compared to other areas in the region. The study compared deaths attributable to physical inactivity and South Africa was ranked 9<sup>th</sup> compared to other risk factors and 12<sup>th</sup> for death and disability-adjusted life years (DALYs). The study concluded that there was a need to identify why the prevalence of physical inactivity is high among South Africans.

Sen and Bonita (2000) as well as Yusuf *et al.* (2001:2746-2753) identify coronary heart disease and cancer (specifically, breast and colon cancers) as possible linked to physical inactivity including type 2 diabetes. In yet another study in the USA, Press, Freestone and George (2003: 245-251) further determined hypertension to be the leading cause of cardiovascular mortality in developing countries, and further predicted that if an inactive person at 50 years of age became active, he would gain between 1.3-3.7 year.

Press *et al.* (2003) conclude that regular exercise improved myocardial contraction, its electrical contraction and increased the stroke volume, which leads to improved cardiac output and lowers the heart rate at rest and all these improve the functioning of the heart. Lee *et al.* (2012) find that physical inactivity contributes to 6% of the burden of disease from chronic heart disease, 7% from type 2 diabetes mellitus, and indicated that inactivity resulted in 9% of premature death in 2008. They further concluded that if physical inactivity is increased? by 10% or 25%, >533 000 or >1.3 million deaths could be averted, respectively, and life expectancy would be increased by 0.68 (0.41 to 0.95) years. Such evidence strengthens the need to use physical activity as a method of countenancing the spread of NCDs in the population.

Muzenda *et al.* (2019) conducted a policy analysis of 34 countries on physical activity (PA) and asserts that the global PA agenda is primarily driven by the World Health Organisation. He notes the lack of collaboration with other sectors like education, transport and urban planning. He further applauds a positive trend of the involvement of sub populations like women, girls and adolescents that triggers policy consideration to include population specific issues. Morgan *et al.* (2019) notes in their 'Choosing Active Role Models to Inspire Girls' (CHARMING) study the role of women trainers of physical activity in molding young girls in society and as rolemodels.



Muzenda *et al.* (2019) discovered that over the past two decades (2000 - 2019) great evolution in policy development had occurred in the 34 countries being studied, prompting his study to focus on conducting a policy content analysis to elucidate the current landscape of global policies for promotion of increased PA., how children and adolescents and how gender was addressed and how the policy was integrated to responding to an NCD pandemic.

## **2.4 IMPACT OF PHYSICAL ACTIVITY PROGRAMMES ON NCDs**

The WHO (2014) identifies the following measures as key to fighting the NCDs, detection, screening, treatment, and palliative care. It also declared that the impact of NCDs around the globe is immense, where:

- in 2015, 40 million of the world's 56 million global deaths are due to NCDs;
- in 2015, 48% of NCD deaths in low and middle-income countries occurred below the age of 70 years, therefore a major cause of premature death; and
- prevention of 80% of NCD deaths due to premature heart disease, stroke, and diabetes.

Żebrowska *et al.* (2019: 57) asserts that the impact of physical exercise is dependent on intensity of exercise on both sexes. The study also found that aerobic and resistance types of exercises had a significant impact on Type 2 diabetes mellitus reduction. Aerobic exercise is defined as activity that causes you to breathe harder and your heart to beat faster, such as when using cardio machines, swimming, spinning and walking, where this is contrasted with anaerobic exercises that cause you to be out of breath quicker, for example, when lifting heavy weights and sprinting.

Press *et al.* (2003) determines that vigorous exercise, or intense exercise that can be defined as expending six metabolic equivalents (Mets) or a minimum of 7.5 kilocal/min or working at a maximum of 70% of the heart rate, is linked to reducing the risks of coronary heart diseases (CHDs). This was concluded following a study

of British civil servants who exercised, and those who did not, with 3.1% risk among those who performed vigorous exercise compared to 6.9% in those who didn't after 8.5 years of follow up. This reduction of risk of CHDs was also noted in the Harvard Alumni study. The Physical Activity Guidelines for Americans (2008) defines 1 met as the energy required to sit quietly and is categorised as minimal activity; moderate activity is defined by activities that measure between 3-6 Mets, including walking cleaning and mowing the lawn and vigorous intense activities are defined as those measuring more than 6 Mets, for example walking and hiking, shovelling, bicycling fast and playing sport.

Kujala (2021) analyses a met-analyses of 4 randomised controlled trials (RCTs) in patients with special chronic diseases and concludes that there is improvement in fitness and function, various cardio-metabolic risk factor levels are improved in most of the common cardio-metabolic diseases and health-related quality of life is improved in various disease categories, and disease-specific indicators of disease progression are improved for conditions such as type 2 diabetes, hypertension, coronary heart disease and heart failure.

He further advises that physicians should consider prescribing exercise to their patients with chronic disease conditions to improve their physical fitness, mood, and health-related quality of life and to slow down the progression of disease. This is contrary to findings stated by Ballin and Nordstrom (2021) which highlight the difference between observational studies which had been conducted and RCT for the outcomes of mortality, cardiovascular disease (CVD), type 2 diabetes (T2D), and fracture. The results show that exercise does not reduce all-cause mortality and incident CVD in older adults or in people with chronic conditions, based on RCTs. The 50,000 participants make this study significant. The results also indicate a lack of effect on cardiovascular mortality in people with chronic conditions, based on RCTs. This study also comprised of 11,000 participants. The mean age groups of the RCTs were over 70 years which might be a reason for no

reduction in all-cause death and incident CVD. Publication bias is speculated in metanalysis studies which came with contradictory results with the NEDHP study, which is a 3-year randomised study, showing that the effects of physical intervention waned over time, which also contradicts the meta-analysis where the effects appeared stronger in studies with longer follow-up. A Norwegian study of older people with a control group and two intervention group with High intensity exercise (HIIT) and Moderate intensity continuous training (MICT), but neither intervention group showed a significantly lower all-cause mortality compared to control. These results leave a lot to be studied to understand the differences observed.

## **2.5 STRATEGIES USED TO INTRODUCE PHYSICAL EXERCISE PROGRAMMES IN COMMUNITIES**

Following the WHA 53.17 Resolution and Declaration on Physical activity, many countries developed healthy lifestyle strategies for their population in order to drive the reduction of NCDs. Wren and Tussing (2006) examine *Healthy Ireland* an Irish government programme that promotes and institutionalises wellness. Its role in society was to develop a National Health Activity Plan, an obesity plan, healthy eating guidelines, tobacco free policy, a healthy workplace, sexual health strategy, and an alcohol policy. This was a national programme that outlined a national framework for action in Ireland, with a focus on prevention, and keeping Irish people healthier for longer periods, by:

- increasing the proportion of people who are healthy at all stages of life;
- reducing health inequalities;
- protecting the public from threats to health and wellbeing; and
- creating an environment where every individual and sector of society can play his or her part in achieving a healthy Ireland.

As a response to the international declarations and evidence of increasing NCD burden, in 2013, South Africa promulgated a policy to reduce causative factors

leading to NCDs by issuing regulations that were intended to reduce future risks related to NCDs. These include:

- reducing tobacco and alcohol use by 20 percent;
- reducing obesity by 10 percent and increasing levels of physical activity by the same amount;
- increasing the number of controlled hypertension, diabetic and asthmatic patients by 30 percent; and
- increasing the number of people screened and treated for mental disorders by 30 percent.

Sinclair and Myers (2004) emphasise the correlation between wellness, developmental approaches, and prevention over the lifespan of an individual. Els and De la Rey (2006) developed a theoretical wellness model to assess wellness of employees for insurance purpose. Both these studies highlighted the importance of wellness programmes in society to keep it healthy and contribute to its positive development. Taylor *et al.* (2017) highlighted the developmental impact of physical exercise on young students including instilling of confidence. Cawley *et al.* (2007) also confirmed the positive role of physical exercise in schools on young girls and how this permeated to their lives outside school and resulted in sustained participation in physical exercise programmes outside school.

Skille (2008) argues that policy development on sport policy can take place in three ways: i) a classical top-down implementation model; ii) the governance theory of policy tools; and iii) the Advocacy Coalition Framework. He further states that sport policy implementation is implemented through voluntary sport clubs, who are most of the time not consulted during policy development. He proposes that an alternative theoretical framework as a possible solution for analysing the implementation of sport policy, which is the translation perspective of neo-institutionalism. This theoretical framework espoused the understanding that

central policy influences local clubs, but at the same time, reinforces the independence of local clubs as implementation is on a voluntary basis.

## **2.6 THE LEGISLATIVE FRAMEWORK IN SOUTH AFRICA**

South Africa unveiled the White Paper on Sports and Recreation for the Republic of South Africa (2011), first developed in 1996 and reviewed in 2004 to deal with emerging positions on transformation agenda in sport and recreation and included areas dealing with social development, sports economy, sport as a human right, sport in development, and peace and sport and the environment. It further embraced an outcomes-based approach to governance and accepted that there needed to be a proactive role played by government of a developmental state. In 2012, the White Paper was further improved by including a Road Map, which identified priority areas for sport and recreation. This third version of the White Paper acknowledges the need to invest in sport and recreation as critical to improve health, economic, social, and international benefits (Sport and Recreation South Africa). Toriola *et al.* (2014: 24-39) concludes that the White Paper on Sport and Recreation (2011) is a framework that guided the policies on sport and recreation in South Africa, noting that the formulation of any policy that provided guidance to healthy lifestyle programmes and recreation programmes was dependent upon or underpinned by its principles.

Whereas Ghana as asserted in a study by Biritwum, Gyapong and Mensah (Mensah (2005: 82) conducted a post policy survey in 2003 to examine physical inactivity and related variables another study by Asare and Danquah (2015: 1-11) confirmed these findings while examining physical inactivity and mental effects. The findings are unlikely to be different to what one would find in South Africa due to similar populations. In Ghana, certain independent variables were associated with poor healthy lifestyle outcomes; an urban setting was a predictor of relatively worse outcome than a rural setting; men performed worse than women and became riskier; and the higher the level of education the better was the chance to

improve the lifestyle. A need to formulate a policy that regulates access to services for those who cannot afford has been as critical.

## **2.7 POLICIES SUPPORTING PHYSICAL ACTIVITY PROGRAMMES**

The WHO Global Strategy on Diet, Physical Activity and Health (DPAS) identifies the following key characteristics for developing a successful physical exercise policy: high level of political commitment, integration in national policies, identification of national goals and objectives, overall health goals, objectives, funding, support from stakeholders, cultural sensitivity, integration of physical activity with other related sectors, presence of a coordinating team, multiple intervention strategies, target the whole population, as well as a specific population groups, clear identity, implementation at different levels within local reality, leadership and workforce development, dissemination, monitoring and evaluation and finally, national physical activity guidelines as essential in developing a strategy (WHO 2007: 107).

To meet some of these criteria, the South African White Paper on Sport and Recreation (2011) advocates for a partnership with the Department of Health to develop physical activity programmes that are well-designed and have a potential to foster a healthy child, however it acknowledged that this potential was underutilised due to poor coordination of efforts (Strydom 2013). Considering this, South Africa, like other countries, started adopting a physical activity agenda to improve the health status of its population.

Haskell *et al.* (2007), in reviewing the 1995 Centre for Disease Control and Prevention/American College of Sports Medicine (CDC/ACSM), sets criteria for beneficial physical activity, where the study issued a primary recommendation that targeted adults between the ages of 18-65 years. It encouraged them to embark on moderate intensive aerobic physical activity of at least 30 minutes per day for five days a week. Haskell *et al.* (2007) observed results 10 years later in a follow

up study to the 1995 CDC/ACSM study. They observed that inactivity remained a challenge and further identified that economic factors, technology, and conflicting messages published contributed adversely to improvement in partaking in physical activity programmes:

- a. The economic factors related to sedentary work - like office work, which contributed to people spending inordinate time in offices;
- b. Technology advancements was identified as a contributor to reduced physical activity both at home and at work as technology has made things easy and less physical; and
- c. Conflicting messages related to beliefs by certain individuals that only vigorous activity will improve health or by others that light activity of their daily life is enough to promote health.

Mitchell *et al.* (2005: 1364-1367) identify challenges to sustaining physical activity programmes therefore a need for a focused programme including monitoring tools may be necessary to achieve success in the different populations with NCDs. The report by CDC/ACSM concluded that there is a dose-related relationship between physical exercise and health, where improving physical exercise contributes to an improved physical fitness and reduce the risks of NCDs (Haskell *et al.* 2007). Migueles *et al.* (2021) also confirm the positive role of intensity of physical exercise and health benefits.

The study on NCDs in different countries has formed the basis for policy development based on research evidence. Healthy lifestyle policies being developed are based on five pillars as outlined by a World Health Survey conducted in Ghana (2003): healthy diet, reduction or elimination of tobacco and alcohol intake, exercise, rest, and environmental sanitation. To this end, the Move for Health Initiative was launched in 2004 to spearhead the Healthy lifestyle Programme (WHO 2003). The WHO urges its member states to celebrate a Move for Health Day each year to promote physical activity as an essential for health

and well-being. To achieve this goal, a healthy lifestyle programme with the following elements is fundamental:

- Good nutrition;
- Regular exercise;
- Combatting misuse of alcohol and tobacco control; and
- Promoting safe sexual behaviour.

The CDC/ACSM recommended that for the healthy lifestyle programmes to be effective, the physical activity element must be a cumulative so as moderate to vigorous physical activity depending on the individual preference of the exercise programme and impact on the condition. Epidemiological evidence in different studies prompted the American College of Sports Medicine (1985) to recommend that adults take 20 minutes of vigorous activity three times a day. This approach has subsequently been adopted internationally as part of most healthy lifestyle programmes. This study aims to inculcate a culture of physical exercise to achieve a reduction of NCDs in the community. It also develops a framework for implementing the physical exercise programmes, standardise the training the trainers so that they understand what activities will benefit the population.

## **2.8 POLICY DEVELOPMENT FRAMEWORK**

Graham and Kelly (2004) identify a correlation between health inequities and dimensions of social position and social difference, such as ethnicity, gender, disability, place, age, and geography, but note that this had not been researched sufficiently, where the policy must be cognisant that health outcomes of a physical activity programme are influenced by social structure, an individual's social position, and social determinants as key elements. The WHO released A School Policy Framework – Implementation of the WHO Global Strategy on Diet, Physical Activity and Health, emphasising the necessary steps to take in developing a policy framework that included consulting a team of experts then setting up a multisectoral team that will monitor and evaluate implementation (WHO 2008). The



WHO also emphasises advocacy for the physical exercise policy so that it gained traction within the community (WHO 2008). Cereijo *et al.* (2019) highlights that evidence indicates that greater local access to sports facilities, such as gyms and sports fields, is independently associated with lower levels of obesity, also indicates the link between the availability of exercise facilities and exercise. Where a higher combined availability of local exercise facilities and parks exists, there is lower odds of obesity and programmes where exercise facilities (e.g. gyms) are available tend to be structured and at moderate to vigorous intensity result in greater health benefits.

Houlihan (2005) explores the tools for analysing policy framework and concludes that the set criteria for assessing the adequacy of analytical frameworks, the four major meso-level analytic frameworks are examined. These are the stages model, institutional analysis, multiple streams model, and the advocacy coalition framework. He assesses them to determine whether they are adequate to examine and interrogate the internal coherence and applicability to critique sport policy. He then concludes that these are inadequate and opts for a modified version of the advocacy coalition framework that he develops and proposes as the most promising point of departure for the analysis of sport policy. This was considered in the development of the policy framework for physical activity.

## **2.9 SUMMARY OF THE CHAPTER**

The chapter identifies relevant literature that proved the importance of physical exercise in reducing non-communicable diseases and asserts that the legislative environment has not been explored sufficiently to guide and implement physical exercise programmes. The programmes are therefore largely implemented by voluntary organisations and not guided by any framework. The need for a coordinated policy framework is therefore emphasised.

## **CHAPTER 3**

### **THEORETICAL FRAMEWORK**

#### **3.1 INTRODUCTION**

This chapter explains the theoretical framework guiding the study. A theoretical framework is defined by Sinclair (2007) as a manner of travel plan or a roadmap. The author further indicates that when you begin a study it is necessary to garner adequate knowledge on the subject matter and the theory underpinning the subject matter. He then outlines questions that one needs to satisfy as adapted from Slevin and Basford (1999: 298), which relate to the amount of knowledge available about the subject under study and the type of available knowledge whether empirical or non-empirical. This ensures that science is the basis for the knowledge used. Several theories were interrogated before embarking on a path of Social Learning Theory.

#### **3.2 POSSIBLE THEORIES CONSIDERED**

The researcher examined different theories that guided research in health promotion research. Weinstein *et al.* (2003) identified four theories of health, namely protective behaviour as the health belief model, the theory of reasoned action, protection motivation theory, and subjective expected utility theory. Nutbeam (2010) identified social cognitive theory and health belief models as the commonest theories in health promotion research.

##### **3.2.1 Social Learning Theory**

The study was guided by the Social Learning Theory. Before Bandura (1971) emphasised how environmental or social causal factors resulted in certain behaviours, the dominant theory at the time was psychodynamic theories that focused on inner forces (needs, drives and impulses) as causing one to behave

and react in an altered manner. This earlier theory did not take human responsiveness into consideration (Bandura, 1971). For this reason, a link between external factors and behavioural response was mooted as a possible explanation for behaviour and this was termed the social learning theory as initially described by Bandura (1971), and Skinner (1950). Social Learning Theory is defined by Bandura (2001) as a method of analysing the determinants and psychosocial mechanisms through which symbolic communication influences thinking, mood and implementation.

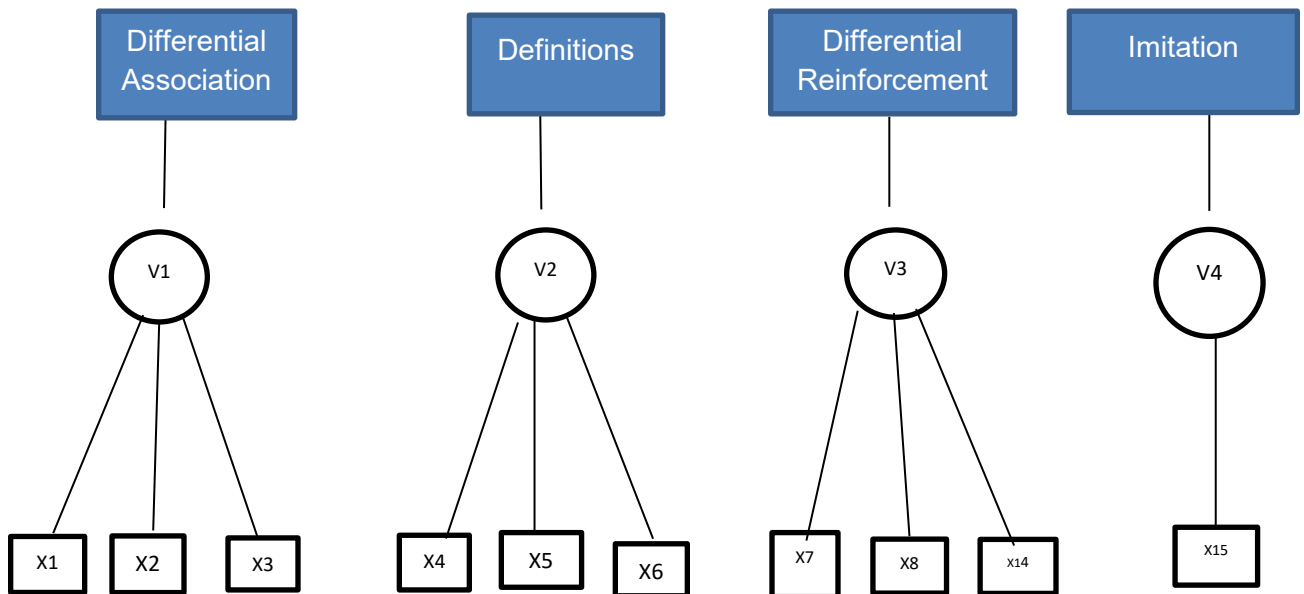
Johnson and Bradbury (2015:13-27) described learning according to their observational learning or social learning theory as a change in mental processes that creates the capacity to demonstrate different behaviours that occurs because of observing others, and use the analogy of “monkey see, monkey do”, where as humans we learn to speak appropriately to social context, and learn to use tools by observing and mimicking others.

In Social Learning Theory, people learn by observing and it is believed that if a task is undertaken in the same way, you will get the same results, that is, we either succeed or continuously fail. Bandura (1971) studied human behaviour and identified that a stimulus event evokes a behaviour and then identified reinforcing elements that altered it. The fundamental finding was that response patterns could be induced, eliminated, and reinstated by invoking external forces and altering them.

Akers and Jensen (2012:303) in the graphic presentations below (Panel A, Figure 3.1 and Panel B, Figure 3.2) outline the causal model and the measurement models in criminology setting; the causal model tries to show a theoretical relationship among concepts e.g. differential association being related to imitation and definitions and differential reinforcement whereas the measurement model

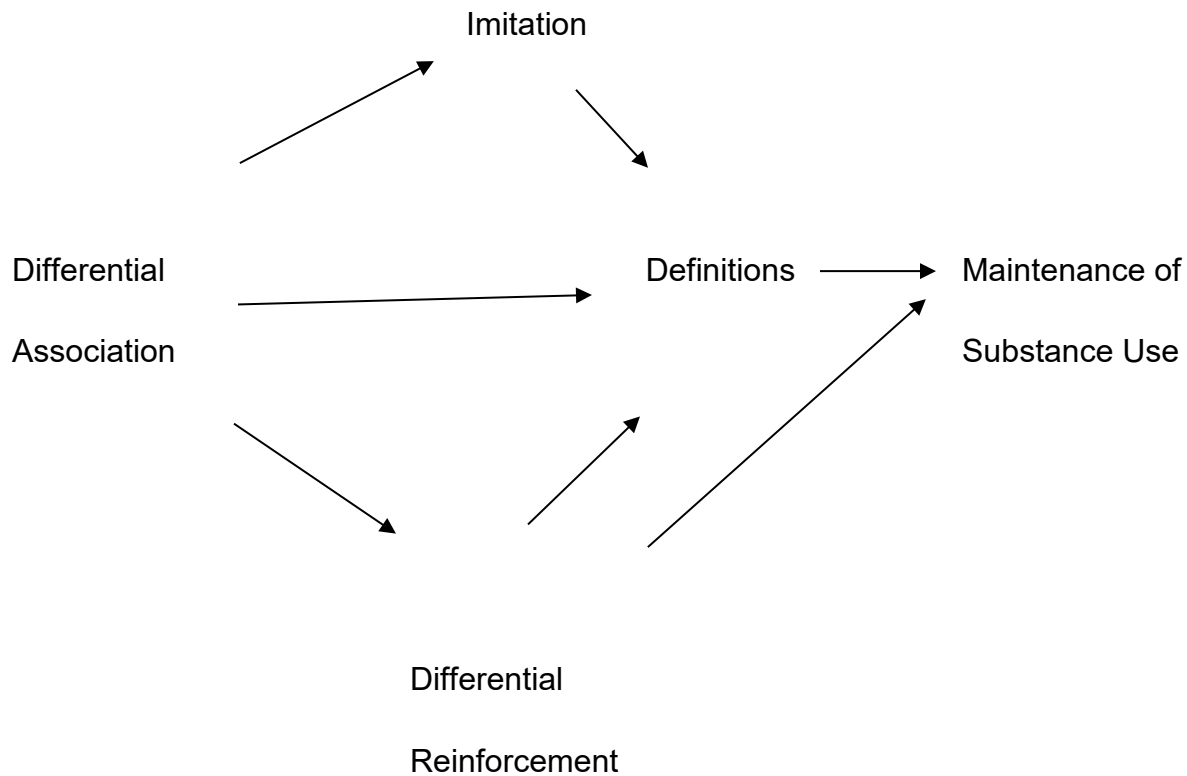
proposes that each empirical construct should represent a concept. A theory map considered:

1. theoretical concepts;
2. measurement relationships with empirical evidence; and
3. explanatory relations linking concepts to one another.



**Figure 3.1: Panel A: Measurement Models for Social Learning Concepts**

Source: Akers and Jensen (2012:303).



**Figure 3.2: Panel B: Causal Model of the Social Learning Process.** Source: Akers and Jensen (2012:303)

Blair (1993) outlines the social learning theory Health Belief Model, which arises out of social learning theory, but focuses on an individual who takes a decision about health, and how the individual places value on the outcome, and secondly, how the individual believes that if a certain action is taken, resulting in the same outcome. Salazar (1991) has indicated that social learning theory accompanies self-efficacy, namely, the belief that one can execute the behaviour required to achieve the outcome. Maiman and Becker (1974) refer to this concept as value expectancy as the individual's behaviour is conditioned by the health value expectation.

### **3.2.2 Translation Perspective of Neo-Institutionalism**

Skille (2008) identifies theoretical frameworks best suited for sport policy development as: i) a classical top-down implementation model; ii) the governance theory. The author further indicates that the theories had a shortfall, as they did not adequately account for the implementation as it largely depended on volunteer sport clubs. He therefore proposes an alternative theoretical framework to bridge the gap of and termed it the translation perspective of neo-institutionalism.

### **3.2.3 Situated Learning Theory**

Kirk and Kinchin ((2003: 221-235) describe situated learning theory as one of the theories that physical education experts believe has the potential to outline and explain a culture in sport. The theory emphasises that people think differently and highlights that during the learning process, people abstract knowledge from the different learnings, where as a result learning is transferred through these interactions in a form of situated learning.

Furthermore, Brown, Collins and Duguid (1989:32-42) describe situated cognition as a learning based on the premise that knowledge is contextually located. The emphasis on context is therefore critical when instructional programmes are developed. Brown, Collins and Duguid (1989) further note that situated learning theory also takes consideration of the culture and context of situations. He therefore, classified people into three categories, namely: novice, expert and 'just plain folks' or 'JPF', who simply engage problems daily. Brown, Collins and Duguid (1989) further postulated that the JPFs and experts unlike novices who work with laws; continuously engage with situations and interact with concepts and due to daily exposure and experimentation they learn the processes. They learn from many forms of situations and interactions such as in stories, cognitive apprenticeship, collaboration, coaching, multiple practice, articulation of learning skills and technology.

Anderson, Reder and Simon (1996:5-11) debunked the four claims that were usually linked to using situated learning theory, especially in the education sector, namely that: (1) action is grounded in the concrete situation in which it occurs; (2) knowledge does not transfer between tasks; (3) training by abstraction is of little use; and (4) instruction must be done in complex, social environments. Anderson, Reder and Simon (1996) instead used the available literature to indicate that such claims are overstated and result in misguided decisions if accepted as truths.

### **3.3 SELECTED FRAMEWORK THAT GUIDED THE STUDY**

Looking at literature, it became clear that health behaviour to be reinforced in research is based on psychological behaviour change and embracing of the benefits of physical exercise programme. Health will be promoted through reinforcing positive behaviours and showcasing successful examples, such as halting medicines in lieu of physical activity, which would reduce the risk of NCDs.

The Social Learning Theory as espoused by Bandura is still an important theoretical guide in health promotion as it is best suited to propel health programmes forward through implementation of four behaviour change steps; Blair (1993) outlined the four strategies for health promotion which this has adopted as:

1. Facilitating the design of effective health promotion programmes by using behaviour change tools;
2. Planning a health promotion program based on the Social Learning Theory principles that allow you to assess personal and environmental factors that will influence the behaviour;
3. Motivating employees to make behaviour changes by being cognisant of client problems, ability to engage clients to set attainable goals, and being able to self-motivate and only be satisfied when goals are achieved and set larger future goals; and
4. interpret the results and acknowledge the lifestyle changes achieved.

This theoretical framework will guide the policy for physical activity and motivate participation in physical activity programmes. NCDs as literature has indicated best benefit from early health promotion initiatives related to nutritional advice, physical activity, reduction of a sedentary lifestyle, mental alertness, stress reduction and good health.

### **3.4 SUMMARY OF THE CHAPTER**

The chapter identified different theories that guide health promotion research and identified the social learning theory as the most suited to follow in defining and guiding the research on physical activity behaviour resulting in reduced risk of developing non-communicable diseases as the behaviour change and health seeking behaviour motivated by reward is an important tenant of this theory.



## **CHAPTER 4**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **4.1 INTRODUCTION**

Blessing and Chakrabarti (2009) define the objective of research design as formulation and validation of models with the purpose of developing new knowledge, methods, and tools so that new products are developed. Research design, according to Taneja, Taneja and Gupta (2011: 343-364), relate to the way in which a process of identifying critical steps of finding solutions to the problem under study is undertaken. This study design incorporated both quantitative and qualitative methods and used information that was attained in the qualitative stage to sharpen the design of the tools for the quantitative stage.

#### **4.2 RESEARCH DESIGN**

This study was guided by an exploratory sequential mixed methods approach. Schoonenboom and Johnson (2017: 107-131) define exploratory sequential mixed methods approach as having at least one element of quantitative and qualitative approaches, where the qualitative method starts, and views of participants are explored, where the data is then analysed, and the information is used to build an instrument that will be tested in a second quantitative phase. Schoonenboom and Johnson (2017) believe that in a pragmatist researcher, paradigms can be mixed or combined, and the incompatibility thesis does not always apply. Creswell (2013) categorises mixed method research approach into three types, namely convergent, sequential, and advanced design, with sequential design being either explanatory or exploratory, if preceded by quantitative and qualitative data, respectively.

As indicated above, this study adopted an exploratory sequential mixed method approach in order to develop a policy framework for establishing physical exercise programmes to reduce non-communicable diseases in the province of KZN, South Africa. The reason for choosing an exploratory sequential mixed methods approach was to broaden the knowledge attained by including information from both qualitative and quantitative methods and to increase the validity of the results by triangulating data through qualitative and quantitative analytic tools so that the result addresses the social circumstances of the population, as well as considers more viewpoints of stakeholders involved in the value chain, as it is not constrained.

In the qualitative phase of the study, the researcher explored the political climate of the area if conducive for introduction of such programmes, the social standing in communities if able to put time aside for physical activity programmes, poverty if able to participate in physical activity, security issues that may affect the delivery of such programmes, and whether age, gender, or educational qualification had any influence on participating in physical activity programmes.

The political climate was observed through interviews by exploring the views of the participants to government's posture, whether positive or negative, to physical exercise programmes, by gauging whether there were supportive programmes developed by the government, or resources geared towards physical exercise programmes. The researcher also observed whether the poverty status, employment status or availability of resources constituted a variable in the delivery of the programme. The responses obtained during the qualitative phase assisted the researcher to develop a questionnaire that was used during the quantitative phase with members of clubs.

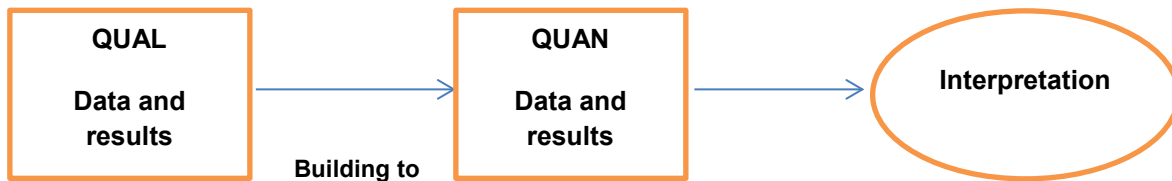
Creswell and Creswell (2018: 213) define the mixing of data as mining the databases more by integrating them. There were rigorous methods of collection, analysis, and interpretation of data from both qualitative and quantitative methods. As articulated by Creswell and Creswell (2018: 215), the data sources were merged in the analysis stage so that information from one method (qualitative) could be used to build on the quantitative data. Therefore, in line with Creswell and Creswell (2018: 216), the resultant tool contextualised from the qualitative method was used to develop a survey tool for the rest of members of clubs.

Greene, Benjamin and Goodyear (2001: 25-44) outline five purposes for choosing to embark on a mixed method research: triangulation, which speaks to convergence; corroboration from different methods; complementary, which seeks to elaborate and enhance; development, which seeks to use results of one method to build or inform) other methods; initiation, which aims to discover contradictions and paradox and new perspectives; and expansion, which seeks to increase breadth of inquiry by using different methods for respective different components.

Morse and Niehaus (2009) emphasise that a mixed method design should have a theoretical drive and suggested that it should preferably be stated in the topic of the study. This meant the study could be qualitative, or quantitative dominant. Later, researchers have criticised this approach as limiting the possibilities of equal status between the qualitative and quantitative data, which necessitated that the validity and rigour is always kept high, unlike what Morse had suggested, namely that the less dominant design could have less rigour.

In summary, the study began with a qualitative data collection and analysis of Phase 1; thereafter it used the findings from this phase to develop a tool for data collection in the quantitative phase (Figure 4.1). Qualitative and quantitative methods were mixed thereafter and the results from the two phases were

incorporated in the discussion, which guided the development of the policy framework.



**Figure 4.1: The exploratory sequential design** (Creswell 2014: 281)

### 4.3 RESEARCH PARADIGM

William James's theory of pragmatism permits researchers the flexibility to choose the methods, techniques and procedures to best suit the needs of their study. Earlier theorists believed that there were two major philosophical dimensions, namely rationalism and intellectualism or empiricists. According to Chesterton, rationalism gives religion without facts, whereas empiricists only give facts. Pragmatism therefore refers to a mediating philosophy or as is sometimes defined as a corridor theory or humanism. James and Burkhardt (1975) therefore assert that pragmatism allows for a 'flexibility of reason' between religion and empiricism.

The research took a pragmatic approach and focused on the research questions and solutions to developing a policy framework for the physical exercise programme. Morgan (2007) indicates that the pragmatic approach took into consideration the environmental issues, social circumstances, and the scientific approach to achieving a healthy lifestyle. Social learning theory was also explored. It, therefore, traversed both qualitative and quantitative approaches in finding a solution. Creswell (2018) asserts that pragmatism opens a space for multiple methods and worldviews, different assumptions, and forms of data analysis.

#### **4.4 SETTING**

KZN is a province in South Africa with a population of over 11,2 million people and lies on the east coast of South Africa. There are ten (10) districts in the province and one (1) is a metropolitan municipality named eThekweni Municipality. EThekweni Municipality has a population of 3.158 million as per the 2020 Statistics SA (StatsSA) population statistics (Cogta 2020 Report). The population growth has been on a 1.5 percent growth since 2011. The city is made up of both rural and urban areas. It also has surrounding townships. The population is diverse and has a predominance of isiZulu speakers. As a coastal city with the largest port in Africa, it is buzzing with logistics and industries dependent on the port. The climate is subtropical and warm most of the year, with short and mild winters.

This study took place in the urban and rural areas including townships of eThekweni Municipality, KZN. All identified areas were those where physical exercise formations already existed that were registered on local government and provincial government databases and were also receiving some form of assistance or advice from government departments.

The clubs are distributed in all regions of eThekweni municipality in urban, rural, and township areas. Some clubs form part of the senior citizens network, whereas others are part of women's clubs. Most of the clubs are formed by community members who have an interest in physical exercise programmes and are self-funded. The clubs are in all townships of eThekweni north, south and west. Very few clubs exist in rural settings.

#### **4.5 SAMPLING PROCESS**

This study is an observational study and is cross-sectional and the qualitative phase will use a multistage approach to sampling to cater for 1. Identification of the sample, 2. Accommodation of the urban-rural setting. Levy and Lameshaw

(2013) describe sampling as using a subset of the population under review during the research. They further outlined that the variables under review are measured in the sample and the measurements are aggregated over all individuals in the sample to get a summary of statistics. The quantitative phase used a simple random sampling approach of club members. Berger and Zhang (2005) describe simple random sampling, indicating that when every unit in the sample has an equal probability of being included in a sample is referred to as simple random sampling.

#### **4.5.1 Sampling process for the qualitative study**

The researcher conducted in-depth one-on-one interviews with participants who conduct physical exercise programmes (trainers, experts, and supporting government officials). A list of administrators/experts and trainers was requested from the Municipality and eThekweni Sports Confederation. A list of 44 clubs based in eThekweni was gathered and a purposive sample of 20 trainers was selected from them, representative of clubs in urban and rural areas.

The sample was taken out of members and associates of the eThekweni Sport Confederation (Confed) and Government officials. The Confed is 20-member federation in the eThekweni area from 10 regions. The intention was to get a representative sample in terms of the membership of confed. The Confed membership ranges from handball, volleyball, football, athletics, aquatics, shooting, swimming, indigenous games, softball, rugby, golf, table tennis, tennis, cricket, boxing, squash, transplant games, chess, baseball and karate. Aerobics is an associate with a large recreational membership and was also included in the sample.

The membership of the Confed is dominated by urban members with rural constituting a smaller percentage. This was catered for in the sample with an 84/16 apportionment ratio as the targeted split. The first stage was therefore to randomly

select members out of the 20-member codes (made up of 44 clubs). Nine codes that were randomly selected are volleyball, football, athletics, indigenous games, table tennis, netball, boxing, aerobics and chess. After identifying the codes, we then separated groups into urban and rural areas and 20 individuals were selected. However, saturation determined the sample size and a total of 13 participants were ultimately interviewed. Out of the 13 trainers and administrators 11 are from urban areas and 2 represented rural areas and two (2) other participants representing government departments were also interviewed totalling fifteen (15). This was in line with the 84/16 ratio.

Olken and Rotem (1986) contend that simple random sampling proved cheaper than going through the entire population as a representative sample could be achieved. Lastly, a maximum of 12 industry experts and administrators were targeted for interview. The reality on the ground was that the list of coaches /trainers and administrators was interlinked, and could not be separated, as they fulfilled dual roles and therefore these groups were not clearly delineable. Coaches also train more than one club and travel between clubs. It also became obvious that coaches also play an administrative role in clubs.

O'Reilly and Parker (2012) and Walker (2012) explain data saturation to be when a point is reached that enough information had been obtained to replicate the study. Guest *et al.* (2006) asserts that when no new data, no new themes, no new coding, and ability to replicate the study exist, then data saturation had been reached. A total of fifteen (15) was finally interviewed.

Three provincial government departments that support physical exercise programmes within eThekweni Municipality were identified as participants, the Department of Sport and Recreation, Department of Social Development, and the Department of Health. A maximum of two officials from each department were targeted for interview, totalling six (6); these were identified based on their

participation in the programme. Two officials were available for interview. eThekweni Municipality had no vested interest in the research outcome as it had no relationship with participants except in providing facilities and occasional workshops to clubs.

In interpretive methodologies, experts have suggested that a certain number of participants as a sample is suggested, for grounded theory, where Charmaz (2012) has indicated that at least 25 interviews ought to be held; whereas, when taking a phenomenological approach, Cohen (2000) proposed less than ten participants if study is intense, and not less than thirty if not intense. For a case study, Yin (2011) proposed 25-50 units for study. The sample size for interviews was therefore considered adequate.

#### **4.5.2 Sampling process for the quantitative study**

A survey was conducted in a sample of all eligible participants of clubs, and the researcher used a questionnaire as a tool to collect the data looking at practices, structure, programmes and trends of programmes being implemented in the different clubs. The researcher had been given a list of 44 existing clubs within eThekweni Municipality that participated in different forms of physical exercise programmes and activities within the city. The ages of participants ranged from 18 years of age to elderly people (>60 years). The total population of clubs was about one thousand (1000) members.

As during the qualitative stage, a multistage or clustering sampling design was undertaken, with clubs that involved separating clubs into urban and rural based, and then sampling based on number of clubs in existence in each setting to achieve 86/14 ratio for urban to rural to reflect the researched population since there is a dominance of urban clubs to rural clubs. Simple random sampling of individuals in the selected clubs was then preferred. A survey was conducted, and



the researcher used a questionnaire to collect the data looking at opinions, trends, and practices in the sample population.

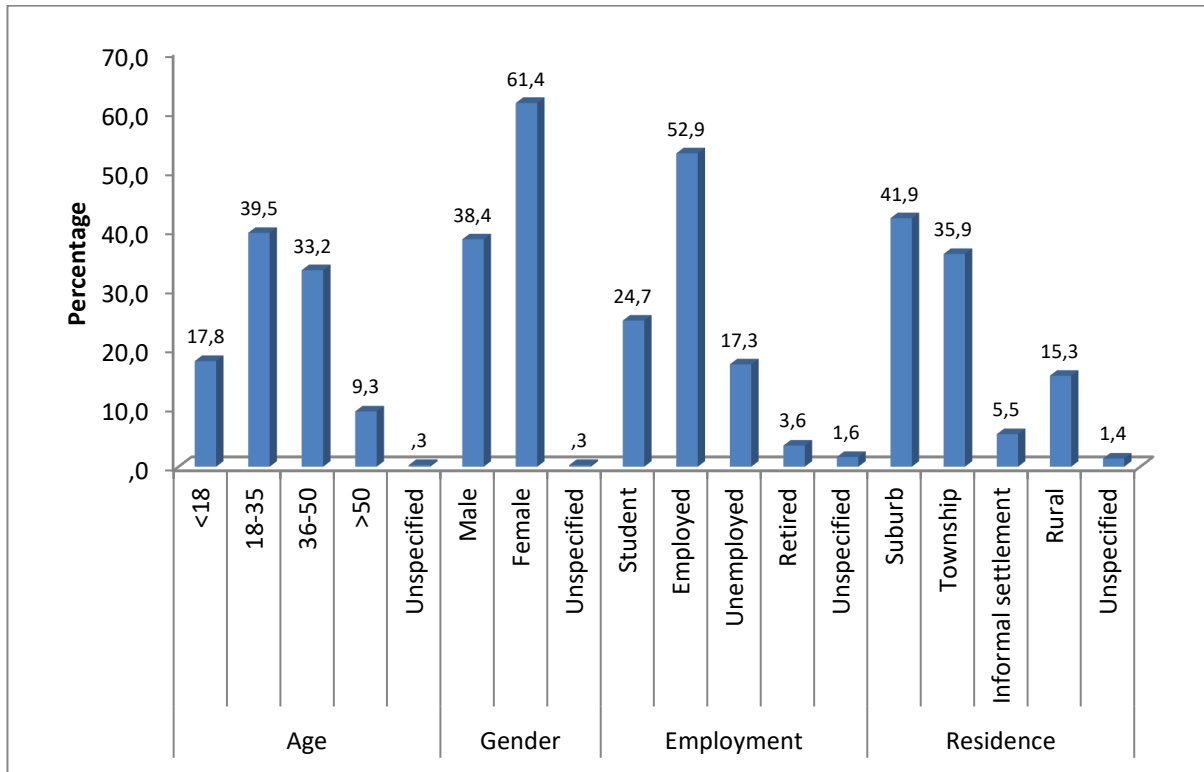


Figure 4.2: Demographics of study population (Quantitative Phase)

Krejcie and Morgan (1970) use a formula that resulted in a representative sample being achieved. The intention was to get a sample size with 5% margin of error and gives a 95% confidence level. The entire population for physical activity clubs is a thousand (1000) members and using Krejcie and Morgan (1970) formula where:

$n = N / \{1 + N (e^2)\}$  Where:

n = the desired sample size

N = the population (1000)

e = acceptable margin error limit (0.05 based on 95% confidence level) the representative sample size was determined to be 286 participants in clubs.

### **4.5.3 Inclusion criteria**

#### **4.5.3.1 For qualitative method**

- Departmental representatives who were actively involved in supporting the clubs.
- Sports experts and administrators of physical activity clubs and establishments.

#### **4.5.3.2 For quantitative method**

- Participants who were 18 years of age or older.
- Active participation in physical activity clubs for at least three months.

### **4.5.4 Exclusion criteria**

#### **4.5.4.1 For qualitative method**

- Departmental representatives who were not actively involved in supporting the clubs.
- Sports experts and administrators from other sporting codes that were not involved in physical activity/ exercise clubs or athletic clubs were not considered.

#### **4.5.4.2 For quantitative method**

- Participants who were less than 18 years of age.
- Participants who participated in the clubs for less than three months.

## **4.6 DATA COLLECTION TOOLS**

### **4.6.1 Phase 1: Interview guide**

Magnusson and Marecek (2015) state that qualitative research attempts to interpret the participants' views, beliefs and to understand the context and environment in which they are placed. A template was used to record the

demographic data of the participants (Appendix 5a). An interview guide with semi-structured questions was used to conduct in-depth, one-on-one interviews with the selected participants (Appendix 5b). Taylor, Bogdan and DeVault (2015: 9-10) contend that in-depth interviews gave an opportunity for the participant to express themselves in their words unhindered.

The interviewer posed leading questions to probe different aspects of the subject matter and to give structure to the interview but allow for the participant to elaborate on their answers. The interview sessions were timed and recorded electronically.

#### **4.6.2 Phase 2: Survey questionnaire**

The questionnaire is a tool that allows the researcher to ask the participants structured questions, it provides a choice in responses and sometimes limits the participant to either agree/ disagree to statements. This allows the researcher to focus on the variables under study. Gillham (2008) defines a questionnaire as an abused form of data collection, and further cautioned against poorly crafted questions as they are unlikely to yield useful information. He further described a questionnaire as a tool that asks the participants direct or indirect questions with the aim of gathering information from participants. The participant has a choice of either yes/ no or to agree/ disagree with the questions.

Gillham (2008) outlines the advantages for the survey questionnaire as follows:

- Administration cost is cheap;
- Time it takes to conduct is fast;
- There is a lack of interviewer bias;
- The questions are standardised;
- Anonymity of the respondent can be guaranteed;
- There is less pressure for an immediate response by the respondents as the respondents can respond at a time that suits them;
- Analysing responses is easier as questions are closed-ended; and

- Several participants can respond to a questionnaire at one time.

Fowler (2009) defines a survey as asking a sample of a population questions and using the answers to define the population. Martin (2006) outlines how questionnaires are used in surveys to elicit reports of facts, attitudes, and other subjective states. The study used a questionnaire as a tool to conduct the survey.

The development of the survey questionnaire involved learning and understanding generally what participants and trainers do during physical exercise programmes. It also carefully considered the wording to be used, so that it does not confuse, create ambiguity, or cause doubt. The questions were crafted to be neutral without influencing the thinking of the respondent. The respondent is expected to make his or her decision based on what the right answer is for them.

The survey questionnaire used mostly closed questions with forced choice and used an ordered response format with scales to choose from. A “don’t know” response format was also offered as an option in certain portions. The questionnaire was grouped into four (4) sections, consisting of:

- a. Demographics, viz. age, gender, employment profile and residence;
- b. Physical activity profile, which looks at participation in physical activity while at school, whether the physical activity was mild, moderate, or vigorous and how frequently people exercised;
- c. Cardiovascular status, which interrogated the cardiac status of participants; and
- d. General information that concerned coaching, funding, security, health and facilities.

## **4.7 DATA COLLECTION PROCESS**

### **4.7.1 Phase 1: Interviews**

The researcher conducted one-on-one interviews with the participants. They were timed to a maximum of one hour. All participants were presented with a letter of information and permission was given to record the interviews. All interviews were setup by an appointment at the place convenient to the participant. During the interview process, all participants were advised of the process and the time allocated to the interview, which was an hour. Standardised interview questions were asked. Participants were permitted to go to previous questions, where they wanted to clarify or change their answers.

### **4.7.2 Phase 2: Surveys**

Findings from Phase 1 were used to develop a survey questionnaire (Appendix 6). The questionnaire was standardised with pointed statements. Data collection was conducted at the sites that were identified through the sampling method. The researcher administered the questionnaire personally. The clubs were visited, and questionnaires handed to participants, who then filled them in. The researcher collected the questionnaires after each participant had finished filling them in. Confidentiality was always maintained as filled questionnaires were collected and placed into a box for safekeeping. The questionnaires were coded and names of participants not indicated.

## **4.8 PRE-TESTING OF THE DATA COLLECTION TOOLS**

According to Schade (2015), pilot-testing is a dry-run, pre-test or trial run and its main aim is to fine-tune the usability of the study. If done well, the reliability of the study improves. Some of the areas that are tested include wording of the document, time required to complete, determining whether data points are adequate, and it also improves the general preparedness of the researcher. The

tools (questionnaires) were tested in a group of 20 employees at Moses Mabhid Stadium. This assisted to improve the quality of the questions more and to remove any ambiguity, confusion in the questions, and improve the understanding and the usefulness of the tools developed in order to determine whether questions can be responded to in the time allocated. It was also necessary to confirm whether the information was going to be credible and useful.

## **4.9 DATA ANALYSIS**

### **4.9.1 Qualitative data**

The qualitative study used the following eight steps of Tesch's method for data analysis:

- Reading through all transcripts to get a general impression of the collected data;
- Writing down thoughts that emerged from the data;
- Making a list of all topics, where similar topics were clustered together. These topics were organised as major topics, unique topics, and leftover topics;
- Abbreviating topics as codes was written next to the corresponding segments in the data, where any other topics or codes that emerged were also written next to appropriate segment of the text;
- Using the most descriptive wording for the topics and turning these into sub-categories;
- Grouping together the related topics and emerging list of categories;
- Preliminary analysis of data by assembling data that belonged to each category from which themes emerged; and
- Recoding existing data.

The qualitative study used factor analysis for data analysis and looking at intercorrelation of variables.

#### **4.9.2 Quantitative data**

A cross-sectional survey was conducted with the primary purpose of identifying what best practice was being implemented in different clubs to incorporate it in the policy framework for physical exercise programmes. A tool that was chosen was a questionnaire as it was cheaper, quicker to administer, and a less complicated form of data collection.

The quantitative study used version 26 of the Statistical Product and Service Solutions (SPSS) for data analysis and the tests used in the analysis are as follows:

- Descriptive statistics including means and standard deviations, where applicable. Frequencies are represented in tables or graphs;
- Chi-square goodness-of-fit-test: a univariate test, used on a categorical variable to test whether any of the response options are selected significantly more/less often than the others. Under the null hypothesis, the assumption was that all responses were equally selected;
- ANOVA: a test for several independent samples that compares two or more groups of cases in one variable;
- Binomial test: tests whether a significant proportion of respondents select one of a possible two responses;
- One sample t-test: tests whether a mean score is significantly different from a scalar value; and
- Factor analysis to explore the structure of data.

#### **4.10 TRUSTWORTHINESS**

Mays and Pope (1995) share that qualitative research is sometimes criticised as lacking scientific rigour compared to quantitative research. Polit and Beck (2014) referred to trustworthiness as the rigour of study, which refers to degree of confidence in data, interpretation, and methods used to ensure the quality of the

study. Lincoln and Guba (1985) recognise that there are no scientific tools to measure validity and reliability in qualitative research; outlined the following criteria as fundamental to achieving trustworthiness in qualitative research, namely, credibility, dependability, confirmability, transferability, and authenticity.

Rigour of the study, according to Noble and Smith (2015), relates to quality, credibility, and integrity of the study. Following on from Lincoln and Guba (1985), who suggested alternative methods of confirming validity for qualitative studies, the researcher ensured that strict record keeping, detailing of the trail of decision matrix, and making certain that data interpretation was consistent and transparent was followed to guarantee the rigour of the study.

#### **4.10.1 Credibility**

Korstjens and Moser (2018) refer to credibility as a true picture of the phenomenon under scrutiny being presented. Voice recordings during interviews were done. Information was probed during interviews, until data was saturated and detailed notes were written immediately after the interview. To establish confidence in the truth of the findings, during report writing, voice recordings were replayed repeatedly to ensure that all the information was transcribed. The researcher bracketed his own experiences. Triangulation was done, which included collecting data from multiple sources using various points of views and methods to yield a fuller and richer picture of the phenomenon studied.

#### **4.10.2 Dependability**

Korstjens and Moser (2018) define dependability as the stability or reliability of data over time and conditions. To ensure dependability, an audit trail was maintained through safekeeping of raw data of each interview for future reference. The audit involved a scrutiny of the data collected and any supporting documentation by an external reviewer, in this case, the supervisor. Although the



researcher coded the interviews himself, the data and analysis were checked for discrepancies scrutinised by the research supervisor, who acted as an independent coder.

#### **4.10.3 Confirmability**

Korstjens and Moser (2018) define confirmability as taking steps to ensure that the findings emerge from the study and not from the researcher's predisposition. The researcher always ensured that the findings were not based on personal bias, but true as reflected by the data and participant. Confirmability was ensured by creating an audit trail to determine whether the conclusions, interpretations and recommendations could be traced to the source. Actual quotations from the participants were also used in the written report of the study. Voice recordings were done to reflect the participant's voice. The researcher's interpretations were scrutinised by the research supervisor, who acted as an independent coder.

#### **4.10.4 Transferability**

Transferability refers to the extent to which findings can be transferred to or have applicability in other settings or groups (Korstjens and Moser 2018). This was mitigated through a step-by-step description of the process followed and creating a recipe for anyone to replicate the process in another setting.

#### **4.10.5 Authenticity**

Busch (2007) and Korstjens and Moser (2018) refer to authenticity the truth being presented and determined through the validity, reliability and triangulation processes. An audit trail of the process mitigated this risk by making sure all records were kept throughout the study period.

## **4.11 RESEARCH RIGOUR FOR QUANTITATIVE RESEARCH**

Validity and reliability were used to ensure research rigour.

### **4.11.1 Validity**

Carmines and Zeller (1975) identify three types of validity, namely: criterion, construct and content validity. Creswell and Miller (2000) assert that this is a way of determining that the study is credible. They further indicate that the choice of method the researcher uses depends on the lens of the researcher and the framework being used in the study.

#### **4.11.1.1 Construct validity**

O'Leary-Kelly (1998) defined construct validity as the degree to which the measure of a construct sufficiently measures the intended concept. Factor Analyses and promax results supported evidence of good convergent and construct validity scores for the items on the questionnaire. Factor analysis with promax rotation was applied to 17 items (Table 6.11) to explore their structure and identify groupings. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value of .940 and the significant Bartlett's test indicates that the factor extraction process was successful and yielded reliable factors. Two factors, accounting for 61.78% of the variance in the data were extracted. Rotation converged in 3 iterations.

Koopmans *et al* (2014: 331-337) highlights two methods to measure construct validity; the first one being scores with related constructs and convergent validity method. Secondly, testing of the differences between two known groups, namely a discriminative validity method. In his study, he tested differences between two groups in order to test construct validity.

## Content validity

Content validity is defined as a measure to ensure that the measurement tools accurately measure, what it is intended to measure and whether the results can be applied in a real-world situation (Golafshani 2003). Messick (1987: i-208) assert the use of pretesting as a method of testing content validity. The study therefore tested content validity through quality assurance done through a pilot session or a pre-test session, in order to test how well the sample represents the conclusions that are made.

### **4.11.2 Reliability**

Kirk and Miller (1986:41-42) define reliability as referring to the repeatability or consistency of the test. Whereas Joppe (2000:1) referred to reliability as “the extent to which results are consistent over time and an accurate representation of the total population under study”. Joppe (2000:1) further indicates that if these results can be reproduced with a similar methodology, then the research instrument can be deemed to be reliable. Test-retest data analysis was initially mooted but on analysis it was decided that it was not necessary, and reliability is confirmed using the Cronbach’s alpha statistic. A value that exceeds 0.7, indicates that the single composite measure is reliable. Table 6.11.

## **4.12 ETHICAL CONSIDERATIONS**

The researcher was granted ethical clearance from the Institutional Research Ethics Committee (Appendix 1). A request to conduct the study was sought and granted by the gatekeepers (Appendices 2 and 2b). A letter of information, which outlined the aims and objectives of the study, was given to the potential participants (Appendix 3) and willing participants signed the consent form (Appendix 4). Participants were informed that participation in the interview was voluntary, and they could withdraw any time if they so wished. They were assured of confidentiality.

It was critical that when the research was undertaken human participants were protected. The subjectivity of the researcher in qualitative research and the acknowledgement that the researcher needed to distance themselves from the subject to ensure objectivity was observed. The participants had a right to refuse to participate in the research and had a right to expect their welfare to be treated with utmost importance by the researcher. Researchers always obtained informed consent from participants.

The study followed the Nuremburg Code of 1947, the World Medical Association Declaration of Helsinki in 1975, Declaration of Helsinki in 2000, and the Belmont Report as the guiding documents that outlined principles of dealing with human participants in an ethically acceptable manner. The study ensured that all participants were treated with respect and that their privacy was respected throughout the study. Sharing of information would only occur with their expressed consent. Throughout the study, their views were respected and included. No judgements on participants for any ethical, physical, moral cultural or actions occurred or was tolerated. All participants were provided with a copy of the letter of information, which outlined the details of the study (Appendix 2). Thereafter, participants were requested to provide a written consent (Appendix 3). The basic ethical principles identified were respect for persons, autonomy, beneficence, justice, confidentiality, and anonymity.

#### **4.12.1 Self-determination**

Polit and Beck (2012: 154) describe self-determination as the right to participate or withdraw from the study. To enable the participants to make an informed decision to participate in the study, the researcher provided detailed explanation on the study, including but not limited to the aim of the study, consequences of participation or refusal to participate, and possible gains or risks associated with participating in the study. Following the full disclosure of information regarding the

study, participants were asked to voluntarily sign a written consent to participate in the study. The researcher witnessed the signing and countersigned as witness.

#### **4.12.2 Autonomy**

Autonomy refers to when participants make a free and informed choice to participate (Polit and Beck 2012: 154). According to Gillon (2015), in the four pillars of ethics, respect for autonomy needs to be respected, citing the Jehovah's Witness attitude to blood transfusion as an example that tests autonomy, where the religion has a right to refuse transfusion. Accordingly, the researcher provides the participant with enough information so that the participant makes independent decisions on participation in the study, an autonomous decision informed by full knowledge of intention of the study and how information will be used. A letter of information was given to all participants and consent was also requested before conducting the study.

#### **4.12.3 Beneficence**

Stirrat and Gill (2005) describe beneficence as the obligation or principle of 'do no harm' and maximise possible benefits and minimise possible harm. The principle of beneficence extends to individuals and communities under research, where a significant benefit is found during research it is extended to others even if they are not a subject of the research. The right to freedom from harm and discomfort was maintained as participants were not subjected to any risk of harm or injury. Before the study was conducted, ethics clearance was granted by the university Ethics Committee. Thereafter, gatekeeper permission was sought and obtained from the respective clubs (Appendices 2a and 2b). The nature of the study, its importance, and how it was going to be conducted was explained to the key contacts and the potential participants. The information about the aim of the study, the process of data collection and analysis was discussed with the participants. The participants were given opportunity to ask questions about the details of the study before giving

consent to be part of the research study. Good practices and policies that will be developed will be extended to the participants as beneficence.

#### **4.12.4 Justice**

Justice refers to fair treatment and the right to privacy (Polit and Beck 2012: 155). As part of the right to fair treatment, Polit and Beck (2012: 155) and Brink, Van der Walt and Van Rensburg (2012: 36) all concurred that participants' selection should be based on study requirements and not on group vulnerability, where all potential participants who were available and would potentially benefit from the findings were included in the study. The researcher ensured that sampling was inclusive and that those selected represented the diversity of the population. The researcher ensured that the selection of participants was based on the requirements of the research and agreements made with the participants. All participants were treated equally without discrimination. To ensure the right to privacy, data collected was kept in a private place. Participants' details were not written in the research report.

#### **4.12.5 Informed consent**

Corti, Day and Backhouse (2000: 256-257) describe informed consent as research that ensures that a participant has freely volunteered informed consent after the researcher had fully and meaningfully explained the purpose of the research. In this study, all participants were provided with a copy of the letter of information, which outlined the details of the study (Appendix 2). Participants were allowed ample time to read, understand and ask questions (clarity-seeking) related to the consent form before granting personal consent to partake in the study. Thereafter, participants were requested to provide written consent (Appendix 3).

#### **4.12.6 Anonymity and confidentiality**

Anonymity refers to removing major identifying details like participant's name, address, company name etc and this is done to safeguard the integrity of the research and of the participants. Wallace (1999) defines anonymity as non-identifiability by using non-coordinability of traits. In this study, codes instead of participants' names will be used to ensure confidentiality. Corti, Day and Backhouse (2000) further described confidentiality as requiring the confidante not to disclose information unless authorised to do so and in a manner that is agreed. Such authorisation is based on the informant being aware of the way the information will be used and all participants were briefed prior to commencing with the study on the objectives of the study.

#### **4.13 SUMMARY OF THE CHAPTER**

The chapter on research design and methodology detailed how the study was designed and sampling conducted. It included the description of how stakeholders were identified, coded and tested - firstly for the qualitative phase and secondly for the quantitative phase. It further outlined how data was handled for both qualitative and quantitative phases and appropriate tests performed for the different methods.

## **CHAPTER 5**

### **PRESENTATION OF FINDINGS: PHASE 1 (QUALITATIVE DATA)**

#### **5.1 INTRODUCTION**

This chapter presents the findings of Phase 1 (qualitative data). The qualitative data set addressed the following objectives of the study, which were to:

- Determine the variables, dimensions and elements that will inform the policy framework development;
- Evaluate the extent to which the social and economic dynamics of the population under review will affect the policy; and
- Determine the elements required to develop a policy framework for developing physical activity programmes in KZN.

#### **5.2 DEMOGRAPHIC DATA OF THE PARTICIPANTS**

Fifteen (15) participants were interviewed consisting of six (6) experts, seven (7) trainers and two (2) government officials involved in physical exercise programmes (Table 5.1).



**Table 5.1: Demographic data of the participants**

<b>Code</b>	<b>Designation</b>	<b>Age</b>	<b>Gender</b>	<b>Residence</b>
LN 1	Govt Official	45	Female	Durban
PD2	Trainer	40	Male	Durban Central
LB3	Govt Official	38	Female	Durban
NM 4	Expert	30	Female	Central Durban
LN5	Expert	32	Male	Pinetown
DF 6	Expert	29	Female	Umlazi and Lamontville
MG 1	Expert	50	Female	Chatsworth
TB2	Trainer	40	Female	Lamontville
PS 1	Trainer	30	Male	Inkosi Albert Luthuli Hospital, KwaMashu and Nyuswa area
MP2	Trainer	28	Male	Wentworth
DJ 3	Trainer	33	Male	Wentworth
MP 4	Trainer	24	Male	Wentworth
DM 5	Trainer	42	Female	Fannin/Clermont
VT 1	Trainer	49	Male	Umlazi
KM 2	Expert	34	Male	Lamontville

### **5.3 PRESENTATION OF FINDINGS**

The following major themes emerged from the analysed data:

- role of schools-based programmes in developing and recruiting for physical exercise clubs;
- a need for regular health check-ups;
- lack of infrastructure and poor state of facilities;
- shortage of training equipment;
- availability of training courses for coaches;
- inadequate funding of physical exercise programmes;

- lack of security and safety of athletes and club members; and
- lack of generic physical exercise programmes.

Table 5.2 presents the themes and sub-themes that emerged from the semi-structured, one-on-one interviews.

**Table 5.2: Overview of the themes and sub-themes: individual interviews**

Theme	Sub-theme
1. Role of schools-based programmes in developing and recruiting for physical exercise clubs.	1.1. Absence of physical exercise periods in schools. 1.2. Lack of trained teachers to conduct physical exercise periods.
2. A need for regular health check-up.	2.1. A need for a Memorandum of Understanding between the Department of Health and eThekweni Municipality. 2.2. A need for strengthening of regular health monitoring mechanisms and partnerships. 2.3. Record keeping of health information.
3. Lack of infrastructure and poor state of facilities.	3.1. Lack of access to infrastructure. 3.2. Poorly maintained facilities. 3.3. Inadequate indoor facilities.
4. Shortage of training equipment.	4.1. Lack of equipment. 4.2. Poor knowledge on how to use available exercise equipment.
5. Availability of training courses for coaches.	5.1. Inaccessibility of courses in all areas. 5.2. Unaffordability of courses.
6. Inadequate funding of physical exercise programmes.	6.1. A need to invest in quality, professional coaches. 6.2. Administrative needs of clubs. 6.3. A need access to nutritional experts.
7. Lack of security and safety of athletes and club members.	7.1. Lack of security at the facilities. 7.2. Poor lighting of roads and training grounds.
8. Lack of generic physical exercise programmes.	8.1. Inconsistent workout times. 8.2. Inconsistent strength and cardio training programmes. 8.3. Programmes not customised for different age groups.

The findings of the study are presented together with the themes and sub-themes that emerged from the analysis of the semi-structured individual interviews. Pertinent direct quotes are included to corroborate the findings.

## **5.4 DISCUSSION OF THE FINDINGS**

The following themes and sub-themes emerged from the data collected through interviews with participants. Relevant excerpts are provided, transcribed verbatim, in order to corroborate the findings.

### **5.4.1 Role of schools-based programmes in developing and recruiting for physical exercise clubs**

Most participants reported that their members were recruited through school programmes. They indicated that where schools had a strong physical activity programme, scholars benefitted enormously in many ways, for example, health benefits were significant, physical fitness, mental alertness and school performance became better as well.

Two sub-themes were identified from the main theme:

Sub-theme 1.1: Absence of physical exercise periods in schools.

Sub-theme 1.2: Lack of trained teachers to conduct physical exercise periods.

#### **5.4.1.1. Sub-theme 1.1: Absence of physical exercise periods in schools**

Participants indicated that they recruited most of their young club members through schools. The scholars were attracted by opportunities physical exercise programmes avail to participants and the benefits to their health and physical fitness. Athletes were also developed through these programmes and attained scholarships and bursaries. A trainer commented on recruitment:

*“.... for me, recruitment is through schools... they come for different reasons... others want to play overseas, and others know that if they play sport and excel, they can get scholarships and bursaries.” (P#TB2; Trainer).*

Another trainer commented on how they recruit:

*“.... we recruit young kids in the streets, and we jog with them and others bring their friends and that’s how we recruit them as they have no sport activities at schools.” (P#DM5; Trainer)*

The trainer confirmed comments by other participants:

*“.... we approach schools and organise tournaments and this is how we recruit them.” (P# TB2; Trainer).*

An expert further commented on recruitment:

*“.... we use the school sport programme, and we approach schools to introduce these codes.” (P#KM2; Expert).*

A trainer agreed with comments of other participants:

*“.... most of the time we go to primary schools and organise relays, fun runs or street miles and that’s where we identify those with potential.” (P#VT1; Trainer)*

A government official outlined what they do:

*“When the city hosted the Essence Festival, we struggled to recruit participants because the sector is not structured in federations and in schools, even the existing federations do not capitalise on the physical exercise programmes and its potential to mobilise masses.” (P#LB3; Govt Official)*

Some of the trainers interviewed who train code specific clubs also indicated that sometimes they approach schools if they want to recruit new members. An expert outlined how they recruit:

*“About exercise, so we actually go to schools, speak to the principals, speak to the kids and we recruit children in that way to come and play sports.”* (P#MG1; Expert)

A trainer shared his experience on recruitment:

*“... we introduce the different sports codes in schools through the Sport and Recreation school sports programme.”* (P#DJ3; Trainer).

However, a few participants raised concerns that most schools in eThekweni do not have a PE period on their timetable or planned PE programme in their schedule and this deprives learners of an opportunity to gain fitness and mental alertness that is a benefit of participating in exercise.

This is evidenced in the excerpts from a participant who is an expert:

*“... and then I can probably move to KZN, I think with the Chatsworth Netball, we do both types of Netball. We do development as in Juniors and we do Seniors. Now our junior structures are basically, under-9, under-11, under-13 and under-17. And those children that do play, we try and get them from schools. With no sport really being played at school now, you know. With no PE being done at school...”* (P#MG1; Expert)

#### 5.4.1.1 Sub-theme 1.2: Lack of trained teachers to conduct physical exercise periods

The participants decried the lack of trained coaches especially in early developmental levels. One participant indicated that one must be familiar with the physiology as well as anatomy before he/ she is considered a trainer.

A government official outlined the problem as they understood it:

*“...as administrators we did not give much focus to physical exercise, there was a time when the city of eThekweni rolled out outdoor gyms... but no programmes linked to the gyms were rolled out.” (P#LB3; Govt Official)*

She further indicated that:

*“... because there is no structure everyone who thinks that they can train they just go and train... I remember even when we had to go to Bremen on a sister city visit and had to take athletes, we struggled to identify a physical trainer because this is a neglected area.” (P#LB3; Govt Official)*

A trainer commented on other trainers and their skills:

*“In the environment we are at, people wake up and organise people and call themselves trainers. You cannot train people if you do not understand the human body.” (P#PS1; Trainer)*

#### **5.4.2 A need for regular health check-up**

The participants defined the core reasons indicated by people who join clubs as physical fitness, the health benefits of exercise and stress relief. Most participants agreed that health check-ups were not done on a regular basis. Those clubs or individuals that participate in competition do check-ups on members entered for competitions. Participants generally agreed that it would be ideal if check-ups were performed on a regular basis. Participants also wished that clubs could be linked to health facilities so that their records could be easily available and updated.

Older participants were more focused on keeping physically fit and healthy and on learning about nutritional options to maintain their weight. This contrasted with younger participants, who were more inclined to focus on physical

appearance. In general, physical looks contributed a lot to motivating participants across all age groups and gender. Three sub-themes emerged from the main theme:

Sub-theme 2.1: A need for a memorandum of understanding between the Department of Health and eThekweni Municipality.

Sub-theme 2.2: A need for strengthening of regular health monitoring mechanisms and partnerships.

Sub-theme 2.3: Record keeping of health information.

#### 5.4.2.1 Sub-theme 2.1. A need for a memorandum of understanding between the Department of Health and eThekweni Municipality

The participants indicated a need for regular health check-ups, they also proposed that a memorandum of understanding is introduced to regulate the relationship with the sport confederation and the Health Unit of the Municipality so that participants enjoy ease of access to health facilities.

To confirm this one participant indicated that:

*“.... our club is highly recommended by KZN Athletics and our team has experts from health, physio and other experts and this gives confidence to athletes that they are well taken care of.” (P#VT1; Trainer)*

An expert commented on health checks:

*“.... it's very rare that we have check-ups unless we are going to compete somewhere.” (P#MK2; Expert)*

A trainer shared her experience with health checks:

*“...there are people who do not know that they have illnesses like diabetes, so it's important to do health check-ups.” (P#PD 2; Trainer)*

A government official outlined their understanding of physical exercise programmes:

*“...most people join the club because of obesity and sense of belonging, they form family bonds with other club members.”* (P#LB3; Govt Official)

She further articulated other reasons for the programme:

*“...some of the people join the clubs because they have been advised by their family doctors to exercise because of certain illnesses...”* (P#LB3; Govt Official).

#### 5.4.2.2 Sub-theme 2.2. A need for strengthening of regular health monitoring mechanisms and partnerships

The participants suggested that health visits and screening programme could also be developed so that the Health Unit is able to visit clubs and assist them to do health screening.

In the excerpt below a government official confirmed why participants join:

*“Personally, I do not have a medical aid so for me being physically fit is my medical aid.”* (P#LB01; Govt Official)

A trainer indicated the relationship with health facilities:

*“We are working together with clinics that are around us and most of the time they assist us to monitor health of the athletes.”* (P#VT1; Trainer)

A trainer confirmed what they usually do:

*“.... it’s very rare that we have check-ups unless we are going to compete somewhere.”* (P#TB2; Trainer)



The government official commented on lack of health check-ups:

*“No health checks are provided, maybe it’s just negligence on people running the clubs... Your bigger clubs, like Virgin Active, would do these health checks but your local clubs in townships do not... it may be negligence or lack of information or lack of capacity...”* (P#LB3; Govt Official)

A trainer commented on why the health check-ups are done:

*“...sometimes we look for drugs, there was this popular drug called, inciki (a mixture of cough mixture with codeine and a cold drink), that the youth are taking, we also do pregnancy tests before we go to competitions...”* (P#TB2; Trainer)

Another trainer commented further:

*“...most clubs do check-ups when people join and when they renew membership on an annual basis.”* (P#DM 5; Trainer)

She further indicated that:

*“...every year a boxer must have a check-up and the doctor then stamps his certificate.”* (P#DM5; Trainer)

*“No nothing we go there we play. I don’t think at the moment in basketball we have resources to do health check-ups.”* (P#DF6; Expert)

A participant outlined reasons for joining:

*“....people join clubs for different reasons, and some have been advised by their doctors to lose weight or to control their medical conditions through exercise.”* (P#PS1; Trainer). She further indicated that:

*“....we do induction when a member joins and do body fat, body mass and body weight then ask health related questions e.g. if they have backache and this helps you decide that they can’t do jumps or similar programmes.” (P#PS1; Trainer)*

#### 5.4.2.3 Sub-theme 2.3. Record keeping of health information

Some participants indicated a need to keep health records, but they were unable to collect or to keep such databases due to space challenges and would like to use the expertise of health facilities to store these records.

A trainer indicated her views on why participants join clubs and their state of health:

*“.... social runners join to keep healthy and feel fit, they are monitored by the local clinic next to Menzi High School, we do health checks once a month.” (P#VT1; Trainer)*

A trainer shared his experience:

*“.... the clinic monitors their progress and keeps their health records.” (P#VT1; Trainer)*

A trainer spoke about her experiences:

*“.... every tournament has an ambulance, and every year a boxer must do a health check-up to make sure there are no health challenges.” (P#DM5; Trainer)*

#### **5.4.3 Lack of infrastructure and poor state of facilities**

Most participants decried the fact that they do not have sports fields to exercise on and where they existed were in a poor state. There are few indoor facilities and are also used by communities as meeting venues. There are few combi

courts and sometimes are in a derelict state. Three sub-themes were isolated from the main theme:

Sub-theme 3.1: Lack of access to infrastructure

Sub-theme 3.2: Poorly maintained facilities

Sub-theme 3.3: Inadequate indoor facilities

#### 5.4.3.1 Sub-theme 3.1: Lack of access to infrastructure

Participants indicated that most of the infrastructure is owned by the Municipality and some by schools and is not always available for use due to a high number of clubs' dependent on it. The facilities are also used for public meetings and events that are not sport or recreation related.

The high competition for facilities requires that more investment is focused on training and sport facility development in most wards. Due to the over-usage of these facilities by schools and community clubs, they require frequent maintenance. Participants proposed a memorandum of understanding (MoU) between schools and the municipality so that facilities could be shared with communities and the municipality in return contributes to their upkeep and maintenance.

In support of this statement, the participant indicated the status with facilities:

*".... the only thing available to us is a basketball court and a basketball, you get there you play basketball."* (P#DF6; Expert).

Another trainer further articulated on state of facilities that:

*".... community grounds are overused, and they end up causing injuries to athletes."* (P#VT1; Trainer)

He further indicated that:

*“.... if the municipality government can sign an MoU with the department of education then communities can have access to the grounds especially in the afternoon the community can have access to the school grounds and children can use it during the day.” (P#VT1; Trainer)*

An expert outlined how facilities are shared:

*“.... in a lot of areas, you book a facility but when you want to use the facility the big codes like the LFAs (local football federations) claim to own the facility and then it becomes difficult to access the fields...” (P#KM2; Expert)*

#### 5.4.3.2 Sub-theme 3.2: Poorly maintained facilities

The state of the facilities leaves a lot to be desired and most are derelict, and some are overgrown. A need to have a focused programme to maintain these facilities is evident. In certain wards, schools have sports fields and halls which are used for PE activities. The challenge is that they usually do not have the budget to keep them in top condition all the time.

The state of facilities was described by a participant in the excerpt below:

*“.... when it’s raining it’s hard to train and the ground becomes unusable.” (P#VT1; Trainer)*

An expert explained why participants behaved in a certain manner:

*“.... there is no consistency in attendance, people come in and go because of facilities that are not up to the level to accommodate all.” (P#LN5; Expert)*

An expert outlined their wishes on facilities:

*“.... we usually use Hoy Park, so if Hoy Park would be more appealing in terms of different structures as well.” (P#LN5; Expert)*

#### 5.4.3.3 Sub-theme 3.3: Inadequate indoor facilities

There are only a few indoor facilities in eThekweni, and are mostly closed, and cater for no more than a few codes. This cripples activities which require their use. Competitive activities in such venues do not develop and training in inappropriate surfaces therefore occurs, resulting in injuries and poor preparation. To illustrate this, a participant outlined:

*“I will be happy if government can look at our facilities, maybe put a track or improve the grandstand” (P#VT1; Trainer).*

An expert commented on facilities:

*“.... that we have access to, we have Umlazi Indoor, which was not available to us last year. I think it's there now they have two basketball courts indoors. Then we have one indoor KwaMashu, and then other private institutions, DUT, your UKZN, your Westville Boys, Durban Girls High School and then for outdoor, we have Hoy Park and KwaMashu, I think the other basketball courts are still in construction that I excluded.” (P#DF6; Expert)*

The participant further indicated:

*“.... except for the fact that they take over the basketball court when they want to have community meetings. Yes, they prioritise community meetings over basketball.” (P#DF6; Expert)*

A trainer commented on impact of facilities on participation in physical programmes:

*“.... people are not consistent due to full facilities and not all can use the grounds at the same time.” (P#VT1; Trainer)*

#### 5.4.4 Shortage of training equipment

All participants indicated that they lacked equipment and therefore had limitations in achieving their potential. Trainees had to be scheduled on different days to access equipment. They also had to improvise to do certain exercises as they do not have the requisite equipment. Three sub-themes were identified from the main theme:

Sub-theme 4.1: Lack of equipment

Sub-theme 4.2: Poor knowledge on how to use exercise equipment

##### 5.4.4.1 Sub-theme 4.1: Lack of equipment

The participants decried the lack of equipment in their gyms and indicated that they usually improvised and used what was naturally available in the respective areas to substitute weights, steps, obstacles, or any other equipment necessary for exercising. They suggested that a programme to supply clubs with equipment should be embarked upon by government urgently. They also proposed partnerships with private clubs so that they could get donations of older equipment which they could refurbish for community clubs.

A government official indicated how facilities ought to be laid out:

*“I would like the clubs to have the same equipment you find in well-established clubs, e.g. must be based in eg. stadia so that they have access to showers, equipment like hula hoops, but should not forget mobile toilets so that health and hygiene is also taken care of.”* (P#LB3; Govt Official)

A trainer indicated how they deal with lack of facilities:

*“... we improvise and sometimes we use stands as steps in order to run up and down and achieve the benefit of steps.”* (P#VT1; Trainer)

Another trainer commented on facilities and equipment:

*“.... it’s important to have equipment similar to what you see at Virgin Active, but in townships your mind should be openminded since you are outdoor and don’t have equipment, so you need to improvise and compromise but do the same exercises.” (P#PS1; Trainer)*

Whereas another participant further accentuated the point by indicating the following:

*“.... we need punchbags, skipping ropes but most importantly we need suitable facilities to use so that we can store our equipment safely as well.” (P#DM5; Trainer)*

An expert outlined what their needs are:

*“.... we need more basketballs, because we use different size basketballs for boys and girls.” (P#DF6; Expert)*

#### 5.4.4.2 Sub-theme 4.2: Poor knowledge on how to use available equipment

The participants are not taught on the correct usage of available equipment which may result in over usage and damage to muscle or tendons. Some participants use weights that are way above their capacity, and this may result in injuries. A proper understanding of the equipment and its capability and limitations of participants always needs to be instilled. This is dependent on the expertise of trainers as noted on the excerpt below:

A trainer commented on exercises:

*“.... depending on the goal of an individual you then decide on the type of exercises to take the person through and identify the equipment required.” (P#PS1; Trainer)*

#### **5.4.5 Availability of training courses for coaches**

Coaches require continuous upskilling through courses and formal training. This was pointed out by participants as difficult to obtain due to cost and accessibility of courses due to limited spaces available per course. Two sub-themes have been identified from the main theme:

Sub-theme 5.1: Inaccessibility of courses in all areas

Sub-theme 5.2: Unaffordability of courses

##### **5.4.5.1 Sub-theme 5.1. Inaccessibility of courses in all areas**

The trainers depend on their sporting bodies to schedule them to training programmes and due to many trainers on the list the process takes a long time and there are few trainers that can be accommodated per session. The federations usually cover the cost of the course and participants must travel to the course and sometimes cover their boarding costs and this is exclusionary.

The government official commented on trainer qualifications indicating:

*“the majority of them do not possess any qualification, I would suggest that they enrol on courses provided by higher learning institutions e.g. kinetics... it will also assist them to catch up with trends happening in their area.”* (P#LB3; Govt Official)

She further shared her experiences:

*“I have personally noticed that the sport graduates get lost in the system, whereas they could be organised to give courses in communities and in this way, jobs could be created for them and also information and expertise would be imparted to communities.”* (P#LB3; Govt Official)

A trainer shared his experience:



*“I have 1AAF 2 Certificate, others have Level 3, one of the coaches were assisted by the municipal programme to attain their certificate through the German partnership.” (P#VT1; Trainer)*

#### 5.4.5.2 Sub-theme 5.2. Unaffordability of courses

The cost of the courses is exorbitant, as most trainers depend on stipends and are not employed on a full-time basis. Participants have proposed decentralised venues for courses so that it is easier and cheaper to access the training venues. They have also proposed online or virtual classes that can be accessed by a wider group.

A participant indicated these challenges on coaching:

*“... most coaches have qualifications although not of the same level...”*  
(P#DM5; Trainer)

The same participant further indicated that:

*“...I wish we could all be assisted and get trained so that when we go to Provincial events, it's not always the same people who get an opportunity to officiate at such level so as we are 30 coaches in the province, we get a chance to rotate.”* (P#DM5; Trainer)

Another expert shared her views on courses:

*“We were hoping to get an accredited coaching programme from the confederation of sport but currently we first need to develop a proposal....”*  
(P#KM2; Expert).

A trainer commented course costs:

*“I trained at Physical IQ a physical exercise training centre for a year and the course costs about R15000.”* (P#PS1; Trainer)

A comment on cost was further indicated by the participant:

*“.... to do a level two course costs R3000, people can't afford that money, we need more of these courses subsidised.”* (P#MG1; Trainer)

#### **5.4.6 Inadequate funding of physical exercise programmes**

The community based physical exercise programmes are mostly run on a voluntary basis and both coaches and participants do it for the love of physical activity or sport. The demands of the activity require funding and most participants indicated that most clubs cannot afford to invest in the development of the clubs without major financial support from government or individuals.

The participants indicated that most members are scholars, or unemployed members of the community, and few can afford to make contributions to buy equipment or suitable apparel to wear. They are unable to maintain their facilities, or to hire better facilities to exercise in a better environment. Three sub-themes have been identified from the main theme:

Sub-theme 6.1: A need to invest in quality, professional coaches

Sub-theme 6.2: Administrative needs of clubs

Sub-theme 6.3: A need access to nutritional experts

##### **5.4.6.1 Sub-theme 6.1 A need to invest in quality, professional coaches**

Most coaches are unemployed and depend on stipends to subsidise programmes. The participants have identified that most programmes are developed by community members and rely on stipends for survival. They have proposed that government grants are offered to clubs so that they can cover running costs and buy equipment for clubs.

A trainer illustrates the point on funding:

*"We would love to get private sponsorship to fund the technical officials..."*  
(P#DF6, Expert).

Another trainer indicated their programme:

*"We offer workshops especially on Saturdays to assist trainers improve their skills."* (P#PS1; Trainer)

An expert advises on programmes:

*"... So, it would be wise to have a person maybe who is educated towards that thing. Not a person who understands how to run the programmes for different age groups for different people."* (P#DF6; Expert)

A trainer comments on funding challenges:

*"... we are always told that there is no funding to do refresher courses, so it is difficult to get more training courses, so we rely on the DSR for funding."*  
(P#DM5; Trainer)

Another trainer commented on funding issues:

*"Coaches pay annual affiliation fees to their federations but do not get any stipends in return or assistance to travel to tournaments."* (P#DM5; Trainer)

#### 5.4.6.2 Sub-theme 6.2: Administrative needs of clubs

Clubs need to maintain their administrative responsibilities and have them in order as funding depends on clean administration for example: to create schedules, training manuals, communication channels; absence results in challenges of attracting financial support and of accessing government programmes. Clubs lack basic infrastructure, due to inadequate resources like computers and administrators. Participants indicated that clubs do not possess

the skills to run clubs efficiently and require training programmes and access to computers to keep records of participants and for ease of communicating with their clients and other clubs. A proposal to assist clubs with administrative expertise was suggested by participants.

A participant shared her thoughts:

*“Coaches need to be trained on how to take care of the needs of children under his/ her care, have a link with the parents, so that they know what their children are doing at all times and also have events for females in boxing to assert their femineity although in a male dominated sport.”* (P#DM5; Trainer)

A trainer shared his views that:

*“.... my vision is to see the youth not being destroyed. My wish is to see the youth achieve their ambitions; I would like to get assistance to change people’s lives by conducting sessions and workshops with the youth on the importance of exercise.”* (P#TB2; Trainer)

An expert pleaded that:

*“...we need more equipment, basketball is a technical sport we need more equipment, we need laptops to run administration, at the moment we use personal laptops.”* (P#DF6; Expert)

An official of government outlined her observation that:

*“...the clubs must improve administratively, also their business skills, their visibility in small young children...normally they target people over 18 years whereas for the benefit of the country they should target people in younger age groups.”* (P#LB3; Govt Official)

She further outlined why clubs perform differently:

*“...communities support clubs but members move from one club to another based on how clubs are run, where clubs have programmes people move to those clubs.”* (P#LB3; Govt Official)

A trainer of a club commented on how the club is constituted:

*“...in our union it’s all females, we do have males in administrative roles.”*  
(P#MG1; Trainer)

#### 5.4.6.3 Sub-theme 6.3: A need access to nutritional experts

One of the areas identified by participants is poor diet by members of clubs. The need to get guidance by dieticians has been identified as critical especially in young participants who are still growing. The challenge identified by participants was that most club members were scholars and therefore relied on meals cooked at home, which may not be appropriate for exercise programmes or athletes. The need to identify basic food products that are available in all households is therefore necessary and the excerpts below confirm this.

An expert outlined the need for information on nutrition:

*“In other codes like rugby, they do get dieticians who visit them and advise them on nutrition, so we hope to get assistance so that our coaches know what participants should be eating in order to develop well.”* (P#KM2; Expert)

Another comment received from a trainer indicated:

*“Boxing is about weight maintenance, so we teach them about limiting what they eat, so diet is important.”* (P#DM5; Trainer)

An expert indicated that:

*“We are lucky to have students who do sport science at university who join our clubs while they are still at university, in eThekweni we have eight of them, who assist us with information on the science of sport.” (P#KM2; Expert)*

#### **5.4.7 Security and safety of athletes and participants**

The participants indicated that they are unable to exercise all the time and especially in the evenings as they felt unsafe. They also raised issues of security with the sports grounds especially if the group is a woman only group exercising due to unsecured facilities and grounds. This forced them to reduce the time spent exercising and exercising only on weekends when home during the day. Two sub-themes were identified from the main theme.

Sub-theme 7.1: Lack of security at the facilities

Sub-theme 7.2: Poor lighting of roads and training grounds

##### **5.4.7.1 Sub-theme 7.1. Lack of security at the facilities**

The participants said that they felt exposed in training venues as no security measures were in place and most do not have security or fencing.

One of the experts indicated that:

*“... when they closed the stadium for exercise it concerned a lot of people as they felt that it was a safer environment to use.” (P#DF6; Expert)*

This comment was emphasised by a fellow participant who trains in open venues:

*“Our ground has no security at all so those that train after-hours have to train for a short period due to safety concerns.” (P#VT1; Trainer)*

#### 5.4.7.2 Sub-theme 7.2. Poor lighting of roads and training grounds

The participants decried a lack of security and light on the streets and in the vicinity of training venues. Those who performed road running were exposed to darkness early in the evening and in the morning and called for the municipality to ensure that streetlights were always functional.

A participant indicated that:

*“.... the reason we don't have a lot of females is because of the situation we live under with gender violence, which makes parents unsettled when on the road running or on way to training, so if safety and lighting could be improved.”*  
(P#VT1; Trainer)

Another participant who trains in an outdoor field indicated that:

*“.... it's not safe especially for the seniors so people are scared to train especially during winter, so by 8pm people have left the venue. Although there are fences but people break them down as well. We do ask police to patrol the area. Netball is only played by females, so people feel safe if there are lots of people there.”* (P#MG1; Trainer)

#### 5.4.8 Lack of generic physical exercise programmes

The participants indicated that clubs follow different programmes and have no generic exercise programme or schedule that they follow during their programmes. This resulted in injuries and inappropriate exercises for certain participants. They also did not have programmes for different age groups, and it was dependent on the trainer to adjust based on the participants attending that day. Most participants indicated that they do both strength and cardio exercises during their programmes, but some customised programmes to sporting codes in which they were involved. Three sub-themes emerged from the main theme:

Sub-theme 8.1: Inconsistent workout times

Sub-theme 8.2: Inconsistent strength and cardio training programmes

Sub-theme 8.3: Programmes not customised for different age groups

#### 5.4.8.1 Sub-theme 8.1: Inconsistent workout times

The participants indicated that training programmes ranged from 45 minutes to two hours per session, and between two times a week to six days a week. There is vast inconsistency to sessions per individual per week, and the resultant effect is that some are not sufficiently impacted, while others are over-exposed. This may result in poor physical outcomes, and being prone to injury, respectively. The excerpt identifies some of the challenges indicated.

An expert commented on one of the difficulties confronting clubs:

*“... we train every Saturday in a central point and we train as not all areas are able to train in their areas... we normally train from 00 to 14h00.”* (P#KM2; Expert)

Challenges experienced in underprivileged areas were articulated by an expert:

*“... so obviously you need to do, to train as a team and you know everybody comes together. That we use to train because, a lot of our children actually come from disadvantaged backgrounds you know like, from [inaudible] that sort of thing. It's a bit difficult for them to get there twice a week so we use to do one week of proper training, and we use to go to the schools.”* (P#MG1; Expert)

Another participant indicated that:

*“... people were exercising twice a week... they would do fitness, agility, shooting skills... minimum two hours depending on the season.”* (P#DF6; Expert)

A trainer outlined how planning is done:



*“.... we sit down on Thursdays and decide the programme for the following week and how much time will be spent.” (P#DM5; Trainer)*

#### 5.4.8.2 Sub-theme 8.2: Inconsistent strength and cardio training programmes

The different participants applied strength and cardio programmes differently. They all indicated their importance but were also aware that the programme of focus depended on type of outcome the participant wanted. They all identified the need for a rest or cooling off period in between the exercises. There was a general knowledge on how to apply these different programmes and there was a general understanding of their impact on the body.

One of the participants defined how training is done:

*“.... with group fitness activities its usually more aerobic sessions, which is under cardio exercises and dance classes and strength training mainly for people who attend gyms or use skipping of ropes as we don't have our own machines...” (P#PD2; Trainer)*

Another trainer further outlined the routine:

*“.... when we go to tournaments, we start doing strength exercises, but we also do cardio and strength exercises as well, but it depends on the time before tournaments.” (P#DM5; Trainer)*

#### 5.4.8.3 Sub-theme 8.3: Programmes not customised for different age groups

The participants indicated that most club members were scholars, teenagers, and tertiary students. The majority are out of school and female. Others indicated that they have an elderly population also attending their programmes. Except for health screening done on joining and before they enter events and tournaments, no health screening takes place in most clubs on a regular basis and therefore, they are unaware of the health status of some of their members.

No customised training has been developed for young members or elderly members of clubs. The participants proposed that trainers ought to be cognisant of the fitness of members to perform all physical routines and should there be exceptions for age, health, or other reason, they develop a secondary programme to accommodate those members.

A trainer outlined their programme:

*“.... we have workshops to train people to understand how aerobics are conducted, how an individual is trained and how groups are trained in a correct manner.” (P#PS1; Trainer)*

An expert went through their routine:

*“Before we start our season, we basically, the first session is only about that, where we do the height, weight and you know like we do agility kind of thing. Just to re-document all those things and we basically check it up. You know just, go maybe every two months or so, just to see the progress from the time they started. But in terms of real health issues, we not medical people so we cannot really do this thing... we just do the general like weight, height and agility.” (P#MG1; Expert)*

A participant involved in basketball complained about the lack of programmes after leaving school for females: *“in basketball, if you don’t go to university as a female, you are done with playing basketball because there are no community-based programmes, except in tertiary institutions.” (P#DF6; Expert)*

## **5.5 SUMMARY OF THE CHAPTER**

The interviews were successfully conducted with fifteen (15) participants and stopped when data saturation had been reached and no new information could be extracted through the sessions. The analysis identified eight (8) major themes and twenty (20) sub-themes were identified. Excerpts have been

extracted to support the themes and sub-themes that have been isolated. The participants indicate that most people in physical exercise programmes are females, and the majority are out of school in their twenties and thirties. This information was used to develop the measurement tool for the quantitative stage of the research, the survey instrument.

## **CHAPTER 6**

### **PRESENTATION OF THE FINDINGS: PHASE 2**

#### **(QUANTITATIVE DATA)**

##### **6.1 INTRODUCTION**

Phase 2 of the study, a quantitative phase involved conducting a survey in a population of physical exercise participants in different settings. The questionnaire was based on the findings of Phase 1, interviews conducted with experts and trainers which identified eight major themes. The questionnaire was therefore crafted to expatiate on the themes that were attained during the qualitative phase but in line with the objectives of the study.

The objectives of the study were to:

1. Determine the variables, dimensions and elements that will inform the policy framework development;
2. Evaluate the extent to which the social and economic dynamics of the population under review will affect the policy;
3. Assess the cardiovascular status of the target population impacted by physical exercise;
4. Determine the elements required to develop a policy framework for developing physical activity programmes in KZN; and
5. Identify the challenges that hinder the setting up of physical exercise programmes.

##### **6.2 TESTS USED IN THE ANALYSIS**

Descriptive statistics, including means and standard deviations, were used to present the results where applicable. Frequencies are represented in tables or graphs.

The following statistical tests were also used to determine the relationships between the variables:

- Chi-square goodness-of-fit-test: a univariate test, used on a categorical variable to test whether any of the response options are selected significantly more/less often than the others. Under the null hypothesis, it is assumed that all responses are equally selected.
- ANOVA: a test for several independent samples that compares two or more groups of cases in one variable.
- Binomial test: tests whether a significant proportion of respondents select one of a possible two responses.
- One sample t-test: tests whether a mean score is significantly different from a scalar value.
- Factor analysis is also done to explore the structure of data.

### **6.3 SURVEY QUESTIONS**

The questionnaire focused on themes identified during the qualitative phase and expanded on them to gather more information. The questions enquired about:

1. Demographic profile;
2. Role of schools-based programmes in developing and recruiting for physical exercise clubs;
3. Health check-ups;
4. Access to facilities;
5. Availability of training equipment;
6. Health status of members;
7. Availability of trained coaches;
8. Safety and security; and
9. Physical exercise programmes offered.

## 6.4 DEMOGRAPHIC PROFILE

This enquired about age, gender, occupation, and place of residence of participants and a tick box was provided for them with age bands indicated:

Less than 18 years	18-35 years	36-50 years	Over 50 years
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They were also required to indicate their gender and whether they stayed in suburbs, townships, informal settlement, or rural areas. They were further asked to tick the employment status they belonged to in the given options:

Scholar/ Student	Employed	Unemployed	Retired/ Pensioner
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The following results were attained from utilising descriptive statistics and analysing the frequencies for gender, age, residence and employment status and the results are indicated as a percentage in a table below.

**Table 6.1: Demographic profile**

Variable	Categories	N (%)
Gender	Female	224 (61.4)
	Male	140 (38.4)
	Non-response	1 (0.3)
Age	<18years	65 (17.9)
	18-35	144 (39.6)
	36-50	121 (33.2)
	Over 50	34 (9.3)
	Non-response	1 (0.3)
Residence	Suburb	153 (42.5)
	Township	131 (36.4)
	Informal settlement	20 (5.6)
	Rural	56 (15.6)
	Non-response	5 (1.4)
Employment Status	Student	90 (25.1)
	Employed	193 (53.8)
	Unemployed	63 (17.5)
	Retired	13 (3.6)
	Non-response	6(1.6)

## 6.5 PHYSICAL ACTIVITY

The thematic areas were drawn from the qualitative phase of the study to understand physical activity programmes offered by different clubs and trainers to participants; the themes also indicated the challenges encountered by participants. The theme ***role of schools-based programmes in developing and recruiting for physical exercise clubs*** was identified during the qualitative phase of the study and the following questions were asked to participants on the theme, whether:

- they participated in physical exercise programme or sport while at school;
- they had physical education periods at school; and
- their schools offered any physical exercise or sporting programmes.

## 6.6 PHYSICAL ACTIVITY AT SCHOOL RESULTS

Response frequencies and a binomial test table indicates the following results as demonstrated in Table 6.2 below.

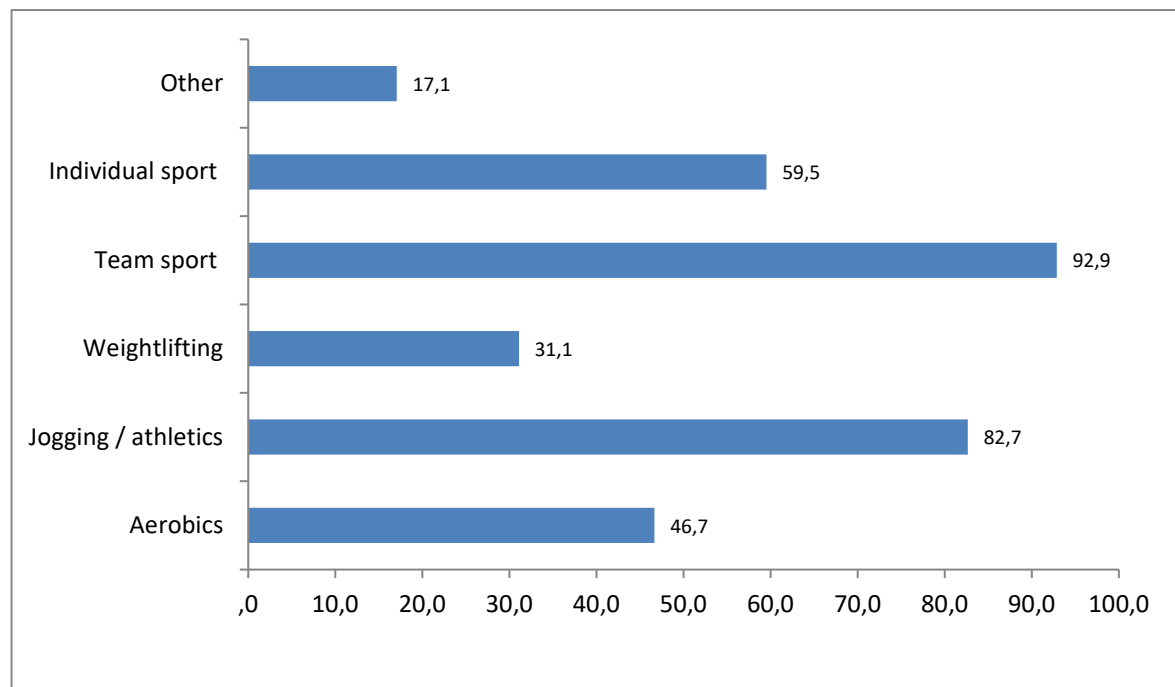
**Table 6.2: Physical activity results**

Item	Frequency (%)		N	p-value
	Yes	No		
Did you participate in any physical exercise programme/ sport while at school?	302 (83.7)	59 (16.3)	361	<.001*
Did your school have physical education periods during the school day?	289 (81)	66 (18.6)	355	<.001*
Did your school offer any physical exercise / sporting programmes (e.g. soccer, netball, athletics, fitness etc) after school?	310(89)	40 (11)	350	<.001*

\* indicates significance at the 95% level

The physical activity results using a binomial test indicated that a significant 84% participated in physical exercise programmes or sport while at school, with a value of  $p<.001$ . It also determined that a significant 81% had physical education periods during the school day,  $p<.001$ . The results also indicated that

a significant 89% of the participants were offered physical exercise / sporting programmes (e.g. soccer, netball, athletics, fitness etc) after school,  $p < .001$ . Looking at participants who were offered sport or physical exercise programmes after school, the frequency indicates the following results were offered in percentage form. Table 6.1 indicates the type of sport codes that were offered to participants.



**Figure 6.1: Sport offered after school**

The results indicate that the majority played team sport followed by athletics/ jogging and then individual sport and aerobics respectively.

## 6.7 PHYSICAL EXERCISE INTENSITY

Participants were asked about the intensity of their exercise programmes. The intensity was defined as mild, moderate and vigorous exercise, and these categories were defined. The duration of an exercise session was also differentiated into less than 45 minutes, 45-90 minutes and more than 90 minutes of exercise per session. To determine the intensity and the duration of exercise, it was asked whether:



- participants regularly participate in mild exercise (slow walking and stretching);
- participants engage in moderate exercise (brisk walking, cycling, weightlifting etc.); and
- participants engage in vigorous exercise (jogging, running, swimming, etc).

The participants were then given options to indicate the duration of each exercise session ranging from <45 minutes, 45-90 minutes and >90 minutes. They were also asked to indicate how many times a week they exercised.

The participants indicated their responses by indicating a yes or no and a binomial test to indicate the significant responses were done. The Chi test (goodness-of-fit-test) was also used to determine what length of time/ duration was significantly more than the other. Table 6.3 indicates the questions that were asked to determine the duration of exercise programmes and it indicates the number of people involved in mild, moderate and vigorous exercise and the mean of number of days involved, together with the standard deviation.

**Table 6.3: Days exercised per seven-day week**

	N	Mean	Std Deviation
How many days in a seven-day week do you participate in mild exercise?	284	3.87	1.484
How many days in a seven-day week do you participate in moderate exercise?	216	3.71	1.445
How many days in a seven-day week do you participate in vigorous exercise?	274	3.65	1.473

The average number of days of exercise in a 7-day week was determined to be 3.87 for mild exercise, 3.71 for moderate and 3.65 for vigorous exercise.

The binomial test on intensity of exercise indicates the following results as outlined in Table 6.4.

**Table 6.4: Physical exercise intensity results**

Item	Frequency (%)		N	p-value
	Yes	No		
Do you regularly participate in mild exercise (e.g. slow walking, stretching)?	301(86)	49(14)	350	<.001*
Do you regularly participate in moderate exercise (e.g. brisk walking, cycling, weightlifting, softball)?	232(67)	113(33)	345	<.001*
Do you regularly participate in vigorous exercise (e.g. jogging/running, swimming, basketball, soccer)?	287(82)	64(18)	351	<.001*
Do you regularly participate in mild exercise (e.g. slow walking, stretching)?	301(86%)	49(14%)	350	<.001*
Do you regularly participate in moderate exercise (e.g. brisk walking, cycling, weightlifting, softball)?	232(67%)	113(33%)	345	<.001*
Do you regularly participate in vigorous exercise (e.g. jogging/running, swimming, basketball, soccer)?	287(82%)	64(18%)	351	<.001*

\* indicates significance at the 95% level

The results indicate that a significant 86% of participants take part in mild exercise regularly and a significant number take up to 90 minutes a day,  $p<.001$ . The study also found that a significant 67% of participants do moderate exercise regularly and a significant number perform moderate exercise for up to 90 minutes a day,  $p<.001$ . Whereas a significant 82% do vigorous exercise regularly and a significant number exercise for 45-90 minutes a day,  $p<.001$ .

## 6.8 CARDIOVASCULAR STATUS

The participants were asked about their health, if they had chronic heart disease, like hypertension, palpitations or chest pains. The questionnaire further enquired from those who indicated that they had chronic heart condition if they were on medical treatment or not. Out of 365 participants, only 351 responded to this question with the majority (326) indicating no illness and the minority (25) confirmed experiencing illness. Table 6.5 shows the percentage of participants with chronic heart disease and numbers of participants on chronic medical treatment.

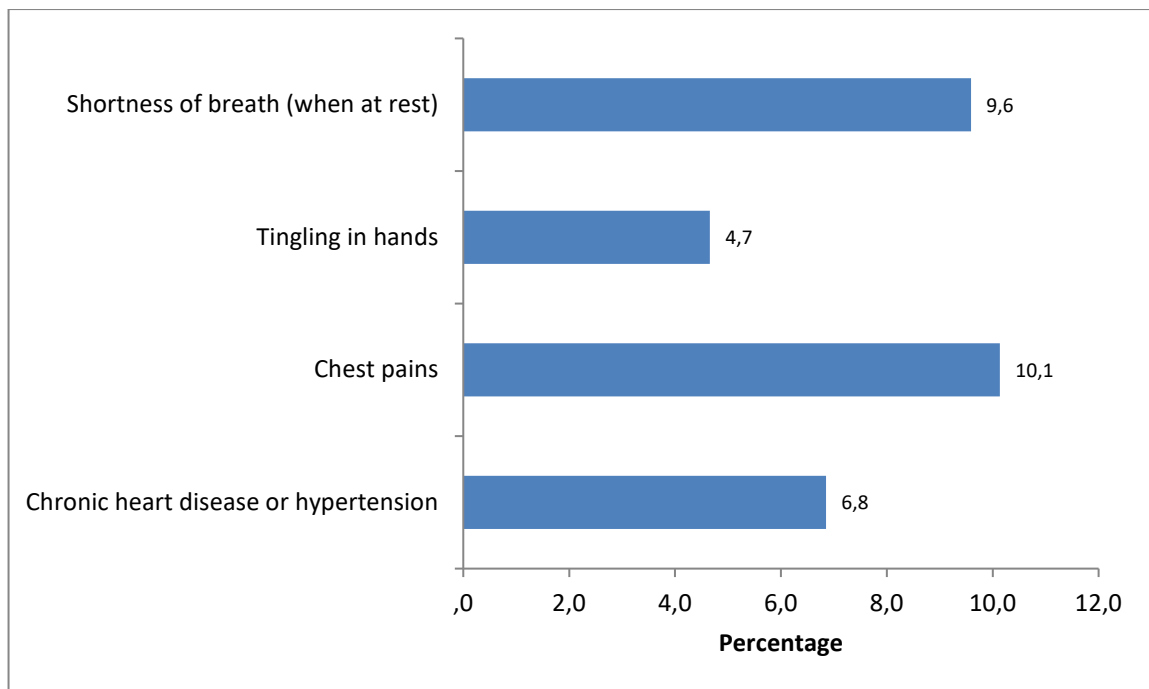
**Table 6.5: cardiovascular disease results**

Item	Frequency (%)		N	p-value
	Yes	No		
11. Do you suffer from a chronic heart disease or hypertension (high blood pressure)?	25 (7%)	326 (93)	351	<.001*
IF YES to Q. 11, do you take chronic medication for heart disease or hypertension?	19 (76%)	6 (24)	25	0.015

\* indicates significance at the 95% level

The results indicate that a significant 93% of participants do not suffer from chronic heart disease or hypertension,  $p < .001$ .

Figure 6.2 below indicates the frequency of participants who indicated to have chronic heart disease and using a binomial test, the following results were found; out of those who suffer from chronic heart disease or hypertension, a significant 76% take chronic medication for it,  $p = .015$ .

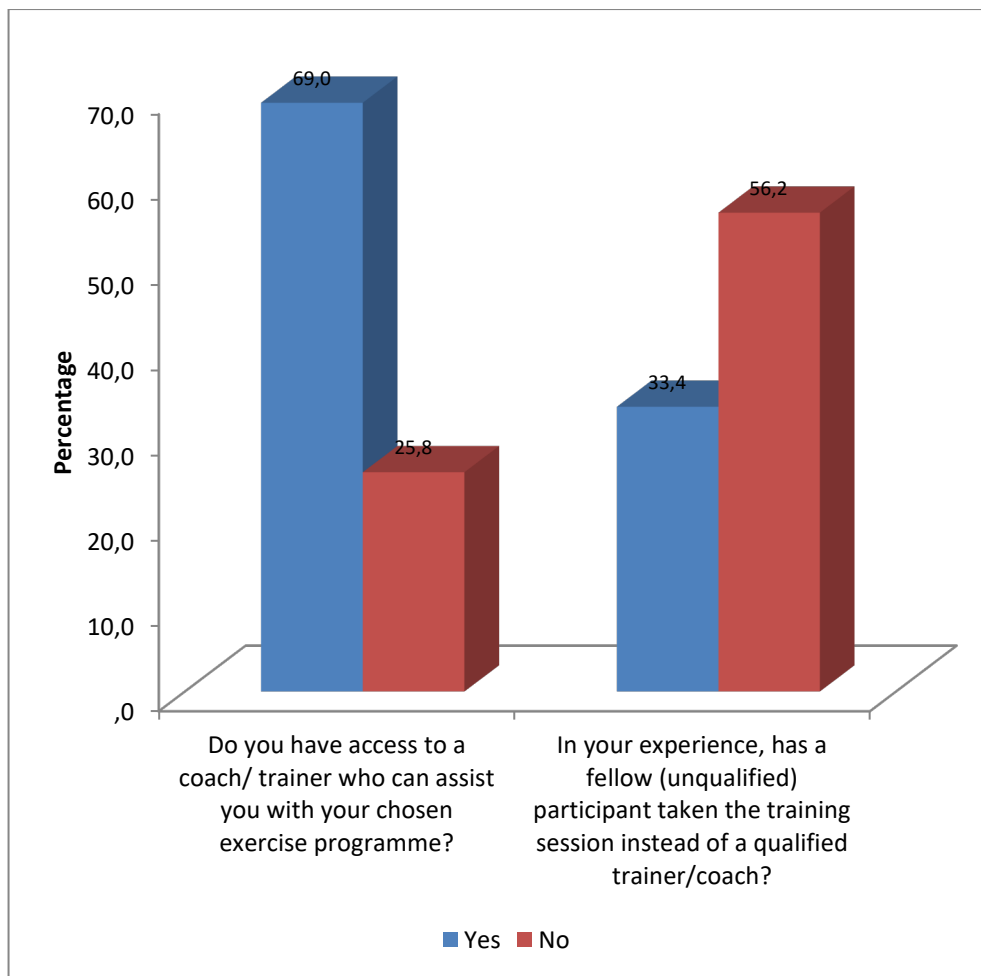


**Figure 6.2: Frequency of chronic heart disease among participants**

## **6.9 GENERAL INFORMATION**

### **6.9.1 Access to a trained coach**

The participants were asked whether they had access to a coach/ trainer who could assist them with their chosen exercise programme and if a fellow participant who is not a coach had given them training. Figure 6.3 shows the percentage of participants who had access to a trained coach compared to those without and the percentage of participants who were trained by an unqualified fellow participant compared to those who were not.



**Figure 6.3: Access to a trained coach**

Table 6.6 indicates the results of a binomial test done to look at the frequency of participants who had access to a qualified coach to assist them in their programmes compared to those who did not; it also shows the frequency of participants who were trained by unqualified/ fellow participants compared to those who were not.

**Table 6.6: Access to a trained coach**

Item	Frequency (%)		N	p-value
	Yes	No		
Do you have access to a coach/ trainer who can assist you with your chosen exercise programme?	252(73%)	94(27%)	346	<.001*
In your experience, has a fellow (unqualified) participant taken the training session instead of a qualified trainer/ coach?	205(63%)	122(37%)	327	<.001*

\*indicates significance at the 95% level

A significant 73% of participants indicated that they have access to a coach/ trainer who can assist them with their chosen exercise programme and a significant 63% did not know if a fellow (unqualified) participant has taken the training session instead of a qualified trainer/ coach,  $p < .001$ .

### 6.9.2 Affordability of facilities

The participants were asked whether they paid for access to training facilities, if facilities were sponsored or free, and if they were run on a voluntary basis by community members. The results indicate that a significant 85% of participants do not have a sponsor that assists with running costs of the exercise facility with a  $p < 0.001$ , whereas a significant 52% do not attend a programme that is not run on a voluntary basis by members of the community,  $p = 0.442$ . A significant 56% of the participants pay a fee for the use of the facilities,  $p = 0.036$ . Table 6.7 indicates a binomial test showing whether the venues participants

used were sponsored, paid a fee for or services were offered on a voluntary basis.

**Table 6.7: Affordability of facilities**

Item	Frequency (%)		N	p-value
	Yes	No		
Is there a sponsor that assists with running costs of the exercise facility?	47 (15%)	258 (85%)	305	<.001*
Is the programme run on a voluntary basis by members of the community?	136 (48%)	150 (52%)	286	0.442
Do you pay a fee to use the facilities?	153 (44%)	193 (56%)	346	0.036

\* indicates significance at the 95% level

### **6.9.3 Exercise routine**

The participants were also asked about their exercise routine and whether they exercised before going to work, and at the workplace or after work. They were asked if programmes offered were customised for age groups or if the facilities offered generic exercise routines. Table 6.8 indicates the results of the tests comparing those who exercised before work compared to those at the workplace and after work.

The following results were noted:

A significant 75% of participants normally exercise during working hours and a similar percentage exercised afterhours,  $p < .001$ . Only a significant 65% of participants had exercise programmes available at the facility run according to



a fixed schedule,  $p < .001$  and a significant 67% had exercise programmes customised for different age groups at their facilities,  $p < .001$ .

**Table 6.8: Exercise routine results**

Item	Frequency (%)		N	p-value
	Yes	No		
Do you normally exercise before working hours?	185 (54%)	159 (46%)	344	0.178
Do you normally exercise during working hours?	252 (75%)	86 (25%)	338	<.001*
Do you normally exercise after working hours?	252 (75%)	86 (25%)	338	<.001*
Do the exercise programmes available at the facility run according to a fixed schedule?	207 (65%)	111 (35%)	308	<.001*
Are the exercise programmes at the facility customised for different age groups?	207 (67%)	102 (33%)	309	<.001*

\* indicates significance at the 95% level

## 6.10 HEALTH PROTOCOLS

Participants were asked about health protocols that were observed by facilities:

- whether facilities offer any health check-up to participants/ members;
- whether participants regularly visit a health facility for a check-up;
- if participants only go for a health check-up when ill or injured;
- if participants have a health check-up some time during the season when competing in competitions;
- whether participants were required to have a health check-up when they joined this exercise facility; and

- facilities keep records of health check-ups and if the facilities offer strength/cardio exercise programmes.

**Table 6.9: Health protocol results**

Item	Frequency (%)		N	p-value
	Yes	No		
Does your exercise facility offer any health check-up to participants/ members?	113 (39%)	178 (61%)	291	<.001*
Do you regularly visit a health facility for a check-up?	142 (43%)	188 (57%)	330	0.013
Do you ONLY go for a health check-up when you are ill or injured?	107 (32%)	228 (68%)	335	<.001*
Do you have a health check-up some time during the season when you are competing in competitions?	107 (35%)	196 (65%)	303	<.001*
Were you required to have a health check-up when you joined this exercise facility?	97 (29%)	235 (71%)	332	<.001*
Does your exercise facility keep records of your health check-up?	171 (62%)	106 (38%)	277	<.001*
Does the facility offer strength/cardio exercise programmes?	221 (71%)	89 (29%)	310	<.001*

\* indicates significance at the 95% level

The results as outlined in Table 6.9 indicate that a significant 60% were not offered health check-ups by facilities whereas a significant 68% of facilities ONLY offered for a health check-up when participants were ill or injured,  $p < .001$ . Another significant 65% were not offered any health check-up anytime during the season even when competing in competitions,  $p < .001$ . On joining the clubs or exercise facilities a significant 71% were not required to have a health check-up,  $p < .001$ . The results indicated that a significant 62% of exercise facilities did not keep records of health check-ups,  $p < .001$ . A significant 71% facilities offered strength/cardio exercise programmes,  $p < .001$ .

## **6.11 FACILITIES**

The participants were asked about the state of the facilities, whether they are maintained, accessible, cater for needs of participants and affordable to participants. They were also asked if they feel safe and secure in the facilities, whether the training equipment was adequate, safe to use and if indoor facilities were up to standard. A t-test was used against a mean of 3.5. Table 6.10 indicates the result of the findings.

**Table 6.10: Facilities results**

Item	Responses as Frequency (%)						N	Mean (SD)	T	Df	p-value
	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree					
The external facility/ground is in a good state.	29 (7.9)	36 (9.9)	14 (3.8)	41 (11.2)	157 (43.0)	54 (14.8)	331	4.28 (1.524)	9.287	330	<.001*
The gymnasium/ exercise facility is generally well maintained.	28 (7.7)	40 (11.0)	15 (4.1)	25 (6.8)	158 (43.3)	61 (16.7)	327	4.31 (1.564)	9.350	326	<.001*
The facility is easily accessible to me.	32 (8.8)	20 (5.5)	10 (2.7)	21 (5.8)	176 (48.2)	78 (21.4)	337	4.55 (1.507)	12.812	336	<.001*
The facility caters for all my needs.	23 (6.30)	46 (12.6)	25 (6.8)	37 (10.1)	142 (38.9)	61 (16.7)	334	4.23 (1.534)	8.738	333	<.001*
Using the facility is affordable for me.	20 (5.5)	18 (4.9)	9 (2.5)	31 (8.5)	178 (48.8)	77 (21.1)	333	4.68 (1.336)	16.145	332	<.001*
I feel safe/ secure using the facility.	20 (5.50)	33 (9.0)	18 (4.9)	34 (9.3)	155 (42.5)	78 (21.4)	338	4.49 (1.456)	12.552	337	<.001*
As a participant/ member, the necessary equipment that I need for my chosen programme is available for my use from/at the facility.	31 (8.5)	32 (8.8)	20 (5.5)	40 (11.0)	160 (43.8)	51 (14.0)	334	4.25 (1.520)	9.072	333	<.001*
As a participant/ member, I know how to use the equipment at my disposal.	14 (3.8)	23 (6.3)	9 (2.5)	37 (10.1)	182 (49.9)	65 (17.8)	330	4.65 (1.268)	16.498	329	<.001*
There is always someone available to assist me if I don't know how to use equipment.	18 (4.9)	26 (7.1)	21 (5.8)	36 (9.9)	156 (42.7)	74 (20.3)	331	4.53 (1.397)	13.472	330	<.001*
The training equipment is safe to use and does not pose a danger to participants if used correctly.	16 (4.4)	25 (6.8)	13 (3.6)	32 (8.8)	173 (47.4)	77 (21.1)	336	4.64 (1.337)	15.665	335	<.001*
There are adequate indoor facilities for the needs of the members.	34 (9.3)	47 (12.9)	20 (5.5)	38 (10.4)	144 (39.5)	46 (12.6)	329	4.06 (1.601)	6.353	328	<.001*
There are adequate outdoor facilities for the needs of the members.	28 (7.7)	46 (12.6)	26 (7.1)	38 (10.4)	145 (39.7)	40 (11.0)	323	4.07 (1.542)	6.659	322	<.001*
The coaches/ trainers at the facility are adequately trained and knowledgeable.	19 (5.2)	13 (3.6)	18 (4.9)	28 (7.7)	165 (45.2)	87 (23.8)	330	4.72 (1.330)	16.675	329	<.001*
The exercise programmes that I want to participate in are scheduled at times suitable to me.	22 (6.0)	28 (7.7)	13 (3.6)	33 (9.0)	181 (49.6)	56 (15.3)	333	4.47 (1.402)	12.679	332	<.001*
I would like to have access to a nutritional expert.	22 (6.0)	16 (4.4)	12 (3.3)	30 (8.2)	165 (45.2)	91 (24.9)	336	4.71 (1.378)	16.038	335	<.001*
The lighting at the facility (indoors and outdoors) is adequate.	32 (8.8)	36 (9.9)	14 (3.8)	31 (8.5)	152 (41.6)	63 (17.3)	328	4.29 (1.585)	9.055	327	<.001*
The lighting of the roads surrounding the facility is adequate.	37 (10.1)	390 (8.2)	16 (4.4)	35 (9.6)	163 (44.7)	52 (14.2)	333	4.24 (1.572)	8.591	332	<.001*

## **6.12 RESULTS**

There is significant agreement that external facilities/ grounds are in a good state, easily accessible, cater for all needs of participants, affordable to participants, participants feel safe/ secure using the facility, that the necessary equipment that is needed for the chosen programme is available for the use of participants at the facility and that there is agreement that the gymnasium is generally well-maintained,  $p < .001$ .

There is significant agreement that participants/ members know how to use the equipment at their disposal, there is always someone available to assist participants if they do not know how to use equipment, that the training equipment is safe to use and does not pose a danger to participants if used correctly,  $p < .001$ .

There is significant agreement that there are adequate indoor facilities for the needs of the members, there are adequate outdoor facilities for the needs of the members and that the lighting at the facilities (indoors and outdoors) is adequate,  $p < .001$ . There is significant agreement that the lighting of the roads surrounding the facility is adequate,  $p < .001$ .

There is significant agreement that the coaches/ trainers at the facility are adequately trained and knowledgeable, the exercise programmes that members want to participate in are scheduled at times suitable to them  $p < .001$ .

There is significant agreement that participants would like to have access to a nutritional expert,  $p < .001$ .

The significance level gives strong confidence against the null hypothesis, the closer it is to 0 the better. Sterne and Smith (2001) indicate that the power of the study (P) is increased by increasing either the sample size or the precision of the measurements. P values less than 0.001 are regarded as providing strong evidence against the null hypothesis.

### **6.13 FACTOR ANALYSIS RESULTS**

Factor analysis with promax rotation was applied to these 17 items to explore their structure and identify groupings. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value of .940 and the significant Bartlett's test indicates that the factor extraction process was successful and yielded reliable factors. Two factors, accounting for 61.78% of the variance in the data were extracted. Rotation converged in 3 iterations. The factor loadings for each item are found in Table 6.11.

**Table 6.11: Factor loadings**

	Factor	
	1	2
14.17 The lighting of the roads surrounding the facility is adequate.	.989	
14.1 The external facility/ grounds where we exercise is in a good state.	.881	
14.2 The gymnasium/ exercise facility is generally well maintained.	.846	
14.11 There are adequate indoor facilities for the needs of the members.	.825	
14.16 The lighting at the facility (indoors and outdoors) is adequate.	.807	
14.7 As a participant/ member, the necessary equipment that I need for my chosen programme is available for my use from/ at the facility.	.691	
14.12 There are adequate outdoor facilities for the needs of the members.	.683	
14.4 The facility caters for all my needs.	.659	
14.6 I feel safe/secure using the facility.	.651	
14.14 The exercise programmes that I want to participate in are scheduled at times suitable to me.		.802
14.8 As a participant/ member, I know how to use the equipment at my disposal.		.756
14.10 The training equipment is safe to use and does not pose a danger to participants if used correctly.		.720
14.9 There is always someone available to assist me if I don't know how to use equipment.		.710
14.15 I would like to have access to a nutritional expert.		.675
14.5 Using the facility is affordable for me.		.662
14.13 The coaches/ trainers at the facility are adequately trained and knowledgeable.		.621
14.3 The facility is easily accessible to me.		.577

The groupings of items on each factor suggest that Factor 1 represents “facilities” and Factor 2 represents “usage”. For each factor, a single composite variable is formed by finding the average of the agreement scores across the items in the factor. Reliability is confirmed using Cronbach’s alpha. A value that

exceeds 0.7 indicates that the single composite measure is reliable. Summary statistics for these two factors are found in Table 6.12.

**Table 6.12: Summary of factors**

Factor	Construct	Construct label	Items included	Variance extracted (%)	Cronbach's alpha
1	Facilities	FAC	1, 2, 4, 6, 7, 11, 12, 16, 17	55.44	.946
2	Usage	USE	3, 5, 8, 9, 10, 13, 14, 15	6.34	.893

A one-sample t-test is applied to determine whether there is significant agreement or disagreement.

Results (Table 6.13) show that: there is significant agreement that facilities are adequate and in good condition,  $p < .001$ ; and the usage of these facilities and what is on offer is acceptable/good,  $p < .001$ .

**Table 6.13: Summary of results**

Construct	N	Mean (SD)	T	Df	p-value
FAC	340	4.24 (1.284)	10.661	339	<.001*
USE	340	4.62 (1.033)	20.077	339	<.001*

Analysis using the Welch test shows that there is a significant difference in the facilities (FAC) depending on where they are situated,  $p < .001$ . Post-hoc analysis using the Games-Howell test shows that facilities that are in the suburbs are significantly better than those in the townships ( $p = .001$ ), in the informal settlements ( $p = .012$ ) and in rural areas ( $p < .001$ ). In addition, facilities are significantly better in the townships than in rural areas ( $p < .001$ ).



Analysis using the Welch test found that there is a significant difference in the conditions of usage of facilities (USE) depending on where they are situated, ( $p < .001$ ). Post hoc analysis using the Games-Howell test shows that: conditions of usage in the suburbs are significantly better than in rural areas, ( $p < .001$ ). In addition, conditions of usage of facilities are significantly better in the townships than in rural areas, ( $p = .008$ ).

## **6.14 SUMMARY OF THE CHAPTER**

The summary of the quantitative phase results indicated that a high percentage of participants of physical exercise programmes were female (61.4%) between the ages of 18-35 (39.6%), employed (53.8%) and the majority stayed in suburbs (42.5%). The participants were mostly free of chronic heart disease and hypertension. The results indicated that not much pre-exercise medical screening was done on joining programmes or during competition. However, most participants had access to a trained coach (73%).

The participants trained before work and after work and a few at the workplace. Most participants who did mild and moderate exercise took 90 minutes per session whereas those that performed vigorous exercise trained for 45-90 minutes.

The factor analysis identified two significant factors, namely the facilities and secondly the usage of facilities. The Welch test indicated that condition of usage of facilities is better in suburbs compared to townships which are also better than informal settlements and rural areas. It also indicated that the physical state of facilities is also better in urban followed by townships than in rural areas.

## **CHAPTER 7**

### **INTEGRATION OF FINDINGS OF PHASE 1 AND PHASE 2**

#### **7.1 INTRODUCTION**

The study involved a qualitative phase and was followed by a quantitative phase to corroborate the results of the first phase. Results of phase 1 and 2 are therefore mixed and merged in this chapter to create integrated results. Phase 1 of the study (qualitative phase) involved interviews with experts and coaches. The coaches were from the different areas of eThekwinini representing urban, rural, suburban and township clubs. Experts represented administrators of different sporting codes and physical exercise clubs as well as government officials who administered the different physical exercise programmes on behalf of the different spheres of government. Phase 2, a quantitative phase, involved conducting a survey with participants of physical exercise clubs. Phase 1 identified 8 themes as depicted in Table 5.2 of chapter 5.

Phase 2 in turn expanded on the themes by soliciting the views and experiences of the participants and by testing the objectives of the study, which were defined in section 6.1 as serving to:

1. Determine the variables, dimensions and elements that will inform the policy framework development;
2. Evaluate the extent to which the social and economic dynamics of the population under review will affect the policy;
3. Assess the cardiovascular status of the target population impacted by physical exercise;
4. Determine the elements required to develop a policy framework for developing physical activity programmes in KZN; and
5. Identify the challenges that hinder the setting up of physical exercise programmes.

## **7.2 THEORETICAL FRAMEWORK UNDERPINNING STUDY**

The theoretical framework that guided the study is social learning theory, as espoused by Bandura (1971), initially outlined by Skinner (1950), and in recent years, by Johnson and Bradbury (2015). The theory proposes that human behaviour is moulded on observation and mimicking of actions and experiences. It also suggests that behaviour is influenced by environmental and societal factors. Social Learning theory underpins the health promotion philosophy as indicated by Blair (1993) who emphasises that Social Learning Theory applied to health promotion programmes considers dynamics of individual behaviour and directs the design of intervention strategies to influence behaviour change. The introduction of health promotion in the framework will be a game changer and incentivise participants to change behaviour.

The introduction of physical exercise programmes at an early stage is in line with the theory. Blair (1993) outlined a form of social learning theory, the health belief model, where self-efficacy places value on the outcome. An individual will take a health decision if he believes that a valued outcome will be the result and the value placed on the outcome motivates the participant. Physical exercise programmes use this concept to reach out to participants.

The following variables, dimensions and elements were identified in the themes below and some were interrogated further: school-based physical activity, trained coaches/ trainers, urban or rural setting, age, and health status.

## **7.3 MAJOR THEME: ROLE OF SCHOOLS-BASED PROGRAMMES IN DEVELOPING AND RECRUITING FOR PHYSICAL EXERCISE CLUBS**

This is one of the themes identified during the qualitative phase, where trainers indicated that most participants were recruited at school and developed an interest in physical exercise programmes at a school going age. Two sub-themes that were identified were:

- Sub-theme 1.1: Absence of physical exercise periods in schools; and
- Sub-theme 1.2: Lack of trained teachers to conduct physical exercise periods.

**Merging and triangulation of data sources:** The major theme focused on the role of school-based programmes in recruiting for physical activity clubs and participants emphasised that the school-based programmes were critical sites for recruitment and the quantitative phase identified that 17.9% of the club participants surveyed were under 18 years of age, and 25.1% were students confirming the critical role of school-based recruitment.

**Significant agreements:** As noted in Table 6.2, 84% of participants participated in physical activity while at school, and 81% had physical education periods during school with  $p < 0.001$ . A significant 89% offered physical activity/sporting programmes after school,  $p < 0.001$ .

**Significant disagreements:** No significant disagreements were noted

#### **7.4 MAJOR THEME: LACK OF INFRASTRUCTURE AND POOR STATE OF FACILITIES**

This was identified in the qualitative phase as a contributory factor to the success of physical exercise programmes and the sub-themes were:

- Sub-theme: Lack of access to infrastructure
- Sub-theme: Poorly maintained facilities
- Sub-theme: Inadequate indoor facilities

**Merging and triangulation of data sources:** The participants in the three sub-themes indicated that most facilities were in cities and towns and fewer in rural areas and under resourced. The quantitative phase using the Welch test found that there is a marked difference in the usage of facilities with urban better than township facilities also better than rural facilities,  $p < 0.001$ . Post hoc analysis using the Games Howell test also indicated that the conditions of usage of

facilities is better in suburbs than it is in rural areas,  $p < 0.001$  and better in townships than in rural areas,  $p = .008$ .

**Significant Agreement:** The major theme: lack of infrastructure and poor state of facilities decried poor infrastructure in communities, worse in rural areas and townships compared to urban areas; the quantitative phase confirmed that the social status of areas in terms of whether suburban, township, informal or rural influenced the state of facilities and the condition of usage of facilities available to participants.

**Significant disagreement:** In the sub-theme lack of access to facilities, affordability was raised as a major barrier to access to facilities and participants indicated that facilities were inaccessible and unaffordable, whereas in the quantitative phase 53.5% of the participants felt using the facility was affordable to them.

## **7.5 MAJOR THEME: INADEQUATE FUNDING OF PHYSICAL EXERCISE PROGRAMMES**

This was identified as a theme during the qualitative phase with the following sub-themes emerging:

- Sub-theme: A need to invest in quality, professional coaches
- Sub-theme: Administrative needs of clubs
- Sub-theme: A need access to nutritional experts

**Merging and triangulation of data sources:** The participants through the major theme: inadequate funding of physical exercise programmes confirmed the challenges faced by clubs due to inadequate financial support which caused clubs to struggle to improve and attract more participants. The quantitative phase also identified in Chapter 6, Table 6.7 that 85% of participants did not have a sponsor that assists with running costs of physical exercise programme or facility costs,  $p < 0.001$  and a significant 56% paid a fee for the use of an exercise facility,  $p = 0.036$ ; while 52% did not attend a programme run on a

voluntary basis,  $p=0.442$ . These results are consistent with literature, Cereijo *et al* (2019) indicates that proximity to facilities promotes access and socio-economic status also impacts on access to PE programmes and facilities.

**Significant agreement:** There is significant agreement that participants would like to have access to a nutritional expert,  $p<.001$  and qualitative theme, where a need to access a nutritional expert was confirmed. There is also a significant agreement that the ability to pay for services affected the availability of physical exercise programmes and very few programmes were sponsored or offered on a voluntary basis.

**Significant disagreement:** On the sub-theme: access to a trained coach/trainer and sub-theme: A need to invest in quality, professional coaches, the qualitative phase indicated that sometimes participants were trained by an unqualified trainer; the quantitative results as tabulated in Table 6.6 reveals a significant 73% of participants indicating that they have access to a coach/trainer who can assist them with their chosen exercise programme; and a significant 63% did not know if a fellow (unqualified) participant has taken the training session instead of a qualified trainer/ coach,  $p<.001$ .

## **7.6 MAJOR THEME: A NEED FOR A REGULAR HEALTH CHECK-UP**

The qualitative phase identified a need for a regular health check-up as a major theme, and three sub-themes related to it were identified as follows:

- Sub-theme: A need for a memorandum of understanding between the Department of Health and eThekweni Municipality.
- Sub-theme: A need for strengthening of regular health monitoring mechanisms and partnerships.
- Sub-theme: Record keeping of health information.

**Merging and triangulation of data sources:** The qualitative phase indicated that there was a lack of health check-ups, where, during the quantitative phase, this was explored further, where Table 6.9 outlines the result of the health

protocols surveyed; with 60% of participants indicating they were not offered any health check-ups at facilities; 68% offered check-ups only when ill or injured; and 65% not offered any health check-ups at any stage in the physical exercise programme,  $p < 0.001$ .

**Significant Agreement:** Sub-theme: A need for strengthening of regular health monitoring mechanisms and partnerships was confirmed with presence of participants with chronic heart disease among the participants and presence of participants on chronic medication that require regular monitoring.

Table 6.5 further illustrates the results of presence of chronic heart disease in participants and determined that 93% do not suffer from chronic heart disease, palpitations or hypertension,  $p < 0.001$  and a significant 76% of those with chronic heart disease took medication,  $p = 0.015$ . Based on social learning theory, if the participants learn the behaviour and improve health checks, the health outcomes will improve further and even less participants will present with chronic heart diseases or hypertension.

**Significant disagreements:** No significant disagreements were noted.

## **7.7 MAJOR THEME: LACK OF GENERIC PHYSICAL EXERCISE PROGRAMMES**

The qualitative phase indicated that programmes were not customised for age groups and mixed strength and cardio exercises. Three sub-themes were identified:

- Sub-theme: Inconsistent strength and cardio training programmes
- Sub-theme: Programmes not customised for different age groups
- Sub-theme: Inconsistent workout times

**Mixing and triangulation of results:** The quantitative phase surveyed the sub-theme: inconsistent strength and cardio training programmes, and as indicated in Table 6.3 and Table 6.4, the Chi test determined that a significant 86% of

participants take part in mild exercise regularly for an average of up to 90 minutes a day,  $p<.001$ . The results also found that a significant 67% of participants do moderate exercise regularly for up to 90 minutes a day,  $p<.001$ . Whereas a significant 82% do vigorous exercise regularly and a significant number exercise for 45-90 minutes a day,  $p<.001$ .

**Significant agreements:** No significant agreements were noted.

**Significant Disagreement:** The sub-theme that there was an inconsistent workout time was dispelled by the quantitative phase, indicating after work and before work as significant results. The qualitative phase could not identify a consistent exercise time for participants, but the quantitative phase found that a significant 53.8% exercised before going to work,  $p=0.178$ ; 25.4% during working hours; and 74.6% after working hours,  $p<0.001$ . This indicated that most participants preferred after-hours workout times.

Whereas the qualitative phase indicated no customised programmes for age groups and mixed cardio and strength exercises, the quantitative phase confirmed that there were mild, moderate and vigorous exercise programmes and there was an average time spent on each by participants. The quantitative phase also looked at days exercised per week, with a mean of 3.87 days per seven-day week for mild exercise, 3.71 for moderate, and 3.65 for vigorous exercise calculated.

Whereas the qualitative phase indicated that there were inconsistent cardio and strength programmes, the quantitative phase distinctly identified mild, moderate and vigorous exercise programmes with an average period of 45-90 minutes for vigorous exercises and an average of 90 minutes for mild and moderate exercises. The average days spent exercising was 3.7 days per week.



## 7.8 MAJOR THEME: SHORTAGE OF TRAINING EQUIPMENT

A qualitative phase major theme, shortage of training equipment has been identified with sub-themes of:

- Sub-theme: Lack of equipment
- Sub-theme: Poor knowledge on how to use exercise equipment

**Mixing and triangulation of results:** Whereas the qualitative phase in a sub-theme indicated a scarcity of training equipment, the quantitative phase indicated that the training equipment is available at my facility (Mean 4.25, SD 1.520, T 9.072, df 333, p-value<0.001). Another sub-theme indicated poor knowledge on how to use exercise equipment, but the quantitative results showed that a participant can use the equipment at their own disposal (Mean 4.65, SD 1.268, T 16.498, df 329, p-value <0.001). A one sample t-test of a mean of 3.5 indicates significant agreement with the statement. The merged results indicated a significant disagreement between the qualitative and quantitative results.

**Significant agreements:** No significant agreements were noted.

## 7.9 MAJOR THEME: SECURITY AND SAFETY OF ATHLETES AND PARTICIPANTS

Another identified major theme was the security and safety of athletes and participants, with two sub-themes identified:

- Sub-theme: Lack of security at the facilities
- Sub-theme: Poor lighting of roads and training grounds

**Mixing and triangulation of results:** The qualitative phase recorded participants decrying the lack of security and lighting in the training venues and facilities, whereas the quantitative phase in Item 6.12 indicates a significant agreement that participants feel safe in facilities with a Mean 4.49, SD 1.456, T 12552, df 337, p-value<0.001 and significant agreement that there the lighting at the facility is adequate, with a Mean of 4.29, SD1.585, T 9055, df 327, p-

value  $<0.001$ . These results are in significant disagreement to the qualitative result.

**Significant agreements:** No significant agreements were noted.

## **7.10 AREAS OF CONFIRMATION OR COMPLIMENTARITY IN THE DATA**

Both the qualitative and quantitative phases agreed that:

- Participation in school sport and presence of physical education periods were important for the recruitment of participants to physical education programmes;
- Most participants in physical exercise programmes were between the ages of 18 and 35 and the majority were female;
- Many participants paid a fee to access physical exercise facilities;
- Facilities in urban areas were in a better state than in townships and rural areas, respectively;
- Participants agreed that they would like to have access to health check-ups;
- Participants would like to have access to a nutritionist; and
- Participants in both qualitative and quantitative results agreed that they exercised at least four days per week and, on average, between 60-90 minutes per day.

## **7.11 AREAS OF DIVERGENCE**

There was divergence between the qualitative and quantitative phase results on:

- The usage of facilities, whereas the qualitative phase decried the over-usage and scarcity of facilities, the quantitative phase indicated that participants strongly agreed that the facilities were easily accessible, and affordable. Unlike the views in the qualitative phase, the quantitative

phase results also indicated that participants strongly agree that the external grounds are generally well maintained;

- Whereas the qualitative phase decried the lack of facilities like gymnasias and makeshift state where they existed; the quantitative phase results indicated that the participants strongly agree that the gymnasium /facility is well maintained;
- The first phase indicated that the equipment was in short supply and participants ended up improvising, whereas the second phase indicated that equipment was available and safe to use. The quantitative phase further indicated that there was always someone available to assist with the use of equipment;
- Whereas the qualitative phase found that participants felt unsafe in facilities; due to lack of security and poor lighting the quantitative phase strongly showed that the participants felt safe and that there was adequate light on the roads where they trained; and
- The qualitative phase indicated a lack of trained coaches in some areas, especially further away from urban areas, whereas the quantitative results indicated that most of the trainers had a basic qualification. Most participants in the quantitative phase indicated they had access to a trainer and could not remember being trained by an unqualified fellow participant.

## **7.12 SUMMARY OF THE CHAPTER**

The integration of results of the qualitative and quantitative phases resulted in stronger agreements in most cases, as it relates to the need for health check-ups and school-based physical activity programmes, and the importance of qualified trainers. Areas of disagreements between the qualitative and quantitative phases emerged on the status of facilities in general and ease of access to training equipment. Both agreed that facilities in urban areas are in a better condition and used better compared to townships and rural areas. There was also agreement that participants need to pay a fee to access physical exercise programmes. The participants took part in mild, moderate, and

vigorous exercise programmes and agreement that they exercised for an average period of four days per week and trained for an average of 45-90 for vigorous exercise and an average of 90 minutes per day for mild and moderate exercise.

## **CHAPTER 8**

### **DISCUSSION OF FINDINGS**

#### **8.1 INTRODUCTION**

The study follows an exploratory sequential mixed method methodology (Creswell, 2013). The first phase consisted of interviews with experts and administrators and in the second phase was followed up with a survey of a larger pool of participants. Eight themes were identified in the qualitative phase of the study and each theme had sub-themes. These were explored further during the quantitative phase and results of both phases were integrated and results, with significant agreements and disagreements highlighted, were presented together under the results findings chapter. As outlined in Creswell (2014: 281) the exploratory sequential approach allows for the results of both phases to be presented for interpretation and discussion. This allows for convergence and corroboration of results from both phases (Greene, Benjamin and Goodyear, 2001: 25-44).

The findings after the integration of results included areas of convergence and areas of divergence as outlined in Chapter 7. There was convergence on participation in school Physical Education (PE) as critical for recruitment, early start into physical exercise programmes, access to facilities being costly, urban areas having better facilities than rural and township areas, and most participants not having access to any health check-ups. Participants also indicated a need for access to a nutritionist. Participants in both qualitative and quantitative phases of the study agreed that they exercised at least four days per week, and on average between 60-90 minutes per day.

Areas of divergence emerged between the qualitative and quantitative phase results on the usage of facilities. Whereas the qualitative phase decried the over-use and scarcity of facilities, the quantitative phase indicated that participants strongly agreed that the facilities were easily accessible, and affordable. Unlike the views in the qualitative phase, the quantitative phase

results also indicated that participants strongly agree that the external grounds were generally well maintained. On facilities the qualitative phase decried the lack of facilities like gymnasia, and makeshift state where they existed; whereas the quantitative phase indicated that the participants strongly agreed that the gymnasium/ facility was well maintained. On equipment, participants indicated that equipment was in short supply, where participants ended up improvising, whereas the second phase indicated that equipment was available and safe to use, whereas the quantitative phase indicated availability of equipment when needed. On safety, the qualitative phase found that participants felt unsafe in facilities due to lack of security and poor lighting, whereas the quantitative phase strongly agreed that the participants felt safe and had adequate lighting on the roads where they trained. On trained coaches' participants, data indicated scarcity of coaches in some areas, especially further away from urban areas. Whereas the quantitative results indicated that most of the trainers held only a basic qualification. Most participants in the quantitative phase indicated they had access to a trainer and could not remember being trained by an unqualified fellow participant. This chapter continues to present a discussion of the findings presented in the preceding three chapters.

## **8.2 HEALTH BENEFITS**

Lee *et al.* (2012) confirms that physical inactivity increases the risks of many health effects, noting that the benefits of physical exercise include elimination or reduction of premature death, and an increase in life expectancy by 0.68 years if inactivity was eliminated. Adamu *et al.* (2006) reported a 40% reduction in age adjusted mortality rate because of exercise. He also identified a better quality of life, improvement in body functions like sleep, prevention and treatment of cardiovascular disease, obesity, backpain and stroke, and an improvement in immune functions as some of the benefits of physical exercise. He recommended frequent lower intensity exercises for a longer duration. This recommendation is in addition to the previous recommendation of 20-60 minutes of moderate to vigorous intensity exercise at least three or more times a week, as previously recommended by CDC and ACSM. In this study 93% of

participants did not suffer with chronic heart disease or hypertension, and of those with chronic heart disease and hypertension, 76% took medication.

Opdenacker *et al.* (2008) compared a group on lifestyle intervention with a structured physical activity programme group, and over the period of a year, the lifestyle intervention group showed significant physical activity compared to the structured programme, indicating the importance of lifestyle intervention in improving the health outcomes and not focusing on physical activity alone. In the qualitative phase, the participants indicated the need to get a nutritionist in the team to get advice on diet so that physical activity is complemented by correct nutrition as well. Le Blanc and Janssen (2010) indicated a dose dependent response to physical exercise, with more benefits with more physical activity. They recommended a moderate regime of exercise to produce good results, but they also indicated that a vigorous exercise would produce even better results.

### **8.3 PHYSICAL EDUCATION**

Harris (2005) is adamant that PE is inextricably linked to health enhancement and disease prevention. He further indicates that some other benefits like skills development and self-discovery later may also be achieved but notes the primary aim of PE remains its health benefits. Almond and Harris (1998) further indicated that PE influenced young people's health, fitness and physical activity levels.

Cawley *et al.* (2007) assessed the impact of Physical Education classes on girl participation in physical exercise to discover that those who spent more time in PE classes increased the number of times they spent having vigorous exercise per week, concluding that more PE made girls more physically active overall. This is in line with the findings of the study during the qualitative phase, namely that scholars that engaged in physical exercise at schools or who had PE classes were more likely to participate in physical activity outside school and participate in community clubs. The qualitative phase identified a major theme:

role of schools-based programmes in developing and recruiting for physical exercise clubs, and identified two sub-themes that were linked to it:

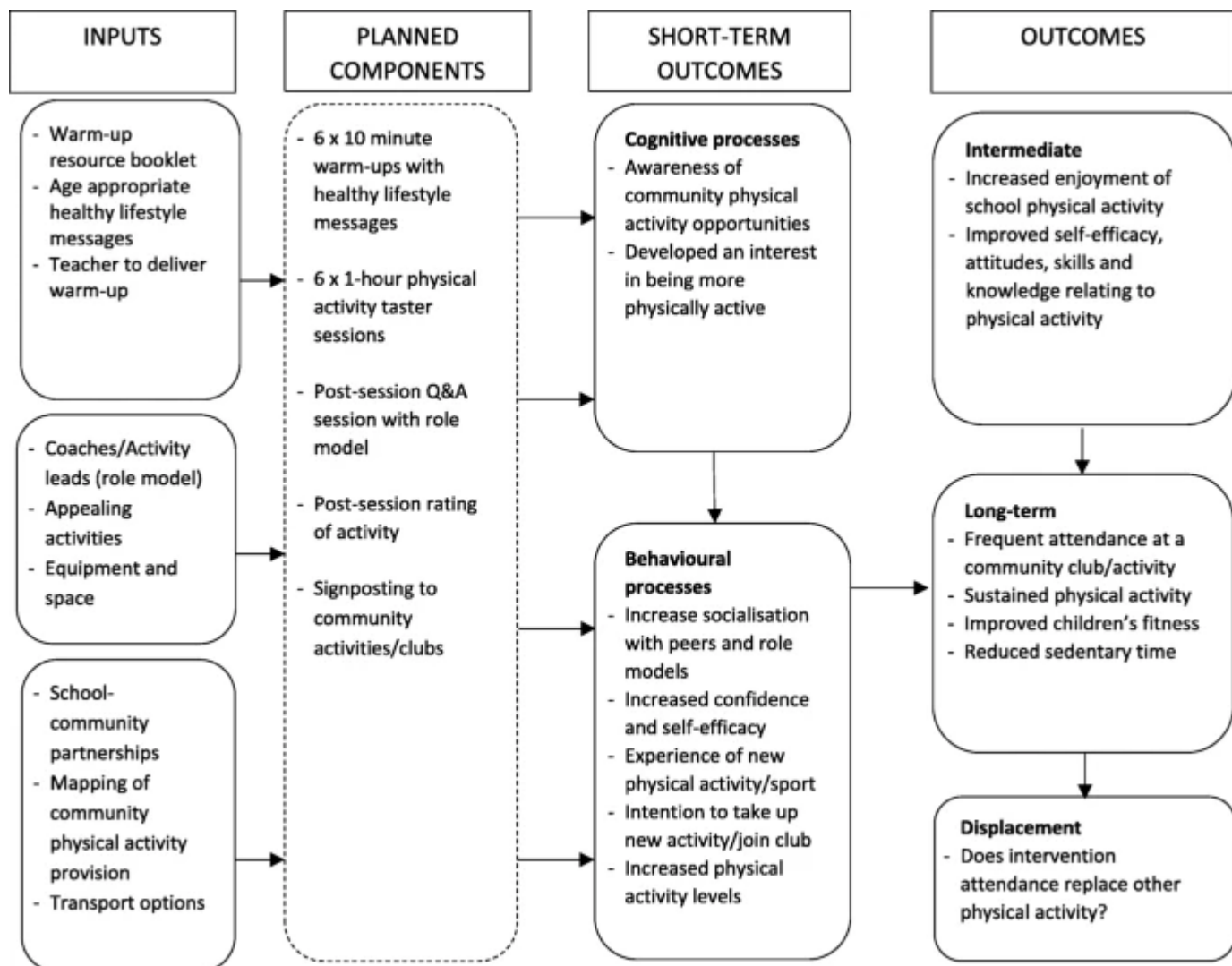
Sub-theme 1.1: Absence of physical exercise periods in school; and

Sub-theme 1.2: Lack of trained teachers to conduct physical exercise periods.

The qualitative phase also suggested that the absence of Physical Education teachers and the lack of PE classes had an impact on the participation and success of physical exercise programmes in communities resulting in less physically active communities. Taylor *et al.* (2017) conclude that if the students are satisfied with their PE experience, they become satisfied with physical activity outside of school.

Morgan *et al.* (2019) note in their 'Choosing Active Role Models to Inspire Girls' (CHARMING) study, the vital role of female role models in implementing physical education to girls in schools. She confirms that girls sustain the physical activity if there is a community link with the physical exercise programme. The CHARMING study used the intervention model as indicated in Figure 8.1 below, achieving the same short term and long-term outcomes as indicated by participants in the qualitative phase of this study (increased enjoyment of physical activity and long-term participation outside school with short term benefits being mental alertness and self-confidence at school) on impact of school intervention programme:





**Figure 8.1: Intervention Model of the Physical Exercise Programme**  
(Morgan *et al.* 2019)

#### 8. 4 PHYSICAL EXERCISE INTENSITY

A recent study by Migueles *et al.* (2021) indicates that physical exercise of at least 30 minutes a day reduces the risk of death by up to 80% for people who are sedentary for less than seven hours a day, but this could not be established for those who spent between 11 and 12 hours a day sitting. This finding confirms the benefit that has been attributed to physical exercise as envisaged by the WHO (2020). The quantitative results of the study confirm that participants performed mild, moderate and vigorous exercise programmes for an average of 45-90 minutes and 45 minutes for vigorous exercise,

respectively. Chastin *et al.* (2021) corroborated the findings of Migueles *et al.* (2021) while looking at moderate to vigorous exercise, by observing effect at a cellular level, discovering an overall higher concentration of CD4 T cell helpers and salivary immunoglobulin IgA, and a lower concentration of neutrophils. He concludes on meta-analysis that regular moderate to vigorous physical activity might contribute to a more effective immune system and a response providing enhanced protective immunity to infections.

The WHO (2020) indicates that regular physical activity prevents and manages non-communicable diseases like heart disease, strokes, diabetes, and several cancers. It also indicated that it maintains body weight, hypertension, mental health, as well as general quality of life and well-being. It is also proven to reduce death by 20-30 percent. The WHO has made age-based recommendations for physical activity and for the age group 18-64 years, which is the group under study it recommends that:

Adults aged 18-64 years should:

- Do at least 150-300 minutes of moderate intensity aerobic physical activity;
- Do at least 75–150 minutes of vigorous intensity aerobic physical activity; or an equivalent combination of moderate and vigorous intensity activity throughout the week;
- Increase moderate intensity aerobic physical activity to more than 30 minutes; or do more than 150 minutes of vigorous intensity aerobic physical activity; or an equivalent combination of moderate and vigorous intensity activity throughout the week for additional health benefits;
- Limit the amount of time spent being sedentary, replacing sedentary time with physical activity of any intensity (including light intensity) provides health benefits; and
- Help reduce the detrimental effects of high levels of sedentary behaviour on health, all adults and older adults ought to aim to do more than the recommended levels of moderate to vigorous intensity physical activity (WHO 2020).

These recommendations are consistent with the findings of the current study that the participants also perform mild, moderate and vigorous exercise for 45 minutes and 45-90 minutes per session for an average of four days per week. This is in line with the time recommended by the WHO (2020). Siddiqui *et al.* (2010) confirm that regular 30 minutes of brisk walking with 150 minutes per week exercise is good exercise that improves cardiovascular status, reducing cerebrovascular disease. He also indicated that it reduces the body weight, improves diabetes by improving insulin sensitivity.

## **8.5 EXERCISE FACILITIES**

Aro *et al.* (2018) studied a community of elderly in residential care facilities and discovered that barriers to exercise included poor health status, lack of understanding benefits to exercise, lack of encouragement by health care workers, and unavailability of exercise facilities and trainers. This is a similar finding this study identified during the qualitative phase, with two themes identifying lack of infrastructure and poor state of facilities as a major theme; where lack of trained teachers to conduct physical exercise periods was also highlighted. These proved to be barriers in this study as well as identified by participants.

Panter, Jones and Hillsdon (2008) discovered that there was a statistically significant negative relationship between area of deprivation score and the density of physical activity facilities,  $p < 0.0001$ . This is a similar finding of this study. Panter, Jones and Hillsdon (2008) further compared public and private facilities in the same areas and found a similar finding with public facilities being less in deprived areas. He, therefore, concluded that the availability of physical activity facilities declines with level of deprivation.

Eriksson *et al.* (2012) concluded that where participants had four or more exercise facilities within a 1km road radius around their surroundings; their time spent in moderate to vigorous exercise activity was likely to be more than those with no exercise facilities in their surroundings. Eriksson *et al.* (2012) found that

this association was independent of sex, age, income, marital status and time of year. The lack of physical exercise facilities was decried by participants in the qualitative phase of the study and the impact it had on recruiting or pursuing physical exercise programmes, especially in townships and rural areas.

## **8.6 EXERCISE EQUIPMENT**

Sallis *et al.* (1997) considered the impact of access to home equipment on exercise and concluded that the only significant association after adjusting for neighbourhood socio-economic status, was home equipment with strength exercise. The qualitative phase identified lack of equipment as a barrier to participants taking part in greater numbers in physical exercise clubs. As a result of inadequate equipment, members spent fewer days and time in training as they shared equipment.

Sami *et al.* (2020) confirmed the results of the Orange County, California intervention programme, where the County introduced physical exercise equipment in two parks and monitored park-goer's physical activity pre- and post-installation. The study was able to conclude that in Garden Grove Park an estimated 23% increase in more active users compared to pre-implementation and in Edison Park a 19% increase in more active users post implementation was noted.

## **8.7 VENUE SECURITY AND LIGHTING**

Participants in the qualitative phase decried the lack of physical security and lighting, especially in outdoor activities where exclusively women participated, but during the quantitative phase this point was not a significant finding. Ojeh *et al.* (2019) studied the security and safety of fitness training venues in Ardabil, Iran and concurred in that context that there is not enough lighting and security in venues; safety average ventilation, guides, and signs also average, light, and sound average and parking and amenities were found to be weak. Kirby *et al.* (2007) considered whether environmental factors affected physical activity of the Aboriginal people of rural Canada and concluded that the environment

affected the level of physical activity and therefore environment specific strategies were required to address different settings and address safety concerns inherent to each environment.

## **8.8 TRAINING COURSES FOR COACHES**

Surujlal and Keyser (2013) researched those factors that contributed to the production of trained coaches and whether there are any demographic variables associated with training. They could not identify any significant variable that was associated with a negative impact on training of coaches except gender, where more males than females were trained. They therefore proposed that focus be given to the training of coaches by all sport codes and clubs. The participants in the qualitative phase of this study indicated that access to training courses was limited by affordability and access to opportunities, with those in urban areas accessing more courses.

## **8.9 COMMUNITY INVOLVEMENT**

Anderson *et al.* (2015) conducted a study focusing on the involvement of families and communities in school physical activity programmes and the impact this had on nutrition and physical activity progress. The study results were positive where communities and families were involved, but it was noticeable that community and family involvement in schools was low. One of the challenges identified in the qualitative phase in the theme of access to facilities was competition for facilities by physical activity clubs with communities, where communities preferred to use facilities for community meetings and other activities like political and family functions, rather than physical activities or sport. This resulted in conflicts and despondency by physical activity participants. The participant proposed a memorandum of agreement between the community through the municipality and the physical fitness clubs for sharing of facilities so that there could be community ownership and support of physical activity programmes.

Egan and Miller (2019) performed a Comprehensive School Physical Activity Programme (CSPAP) and used a well-recognised philosophy in education that involves the family and community and crafted a programme for physical activity. They applied Epstein's six points of engagement, namely: parenting, communicating, volunteering, decision-making and collaborating with the community, to ensure that physical activity programmes were successful.

## **8.10 SUMMARY OF THE CHAPTER**

The chapter discussed the findings of the study and investigated literature to concur or refute some of the findings. Generally, the findings are in line with literature suggesting that there is alignment of the study findings with observed results found in either intervention or cross-sectional studies and desktop studies as these relate to the health benefits of physical exercise, physical activity intensity, the state of facilities, equipment and community involvement and support. The chapter also highlighted findings related to lighting safety and security of venues, training courses for coaches, and the impact of Physical Education in schools on short- and long-term sustainability of physical exercise beyond schools.

Based on the data and the discussion concluded above, the next chapter will develop a policy framework for establishing physical exercise programmes that will reduce non-communicable diseases in communities of KZN.

## **CHAPTER 9**

# **DEVELOPMENT OF A POLICY FRAMEWORK FOR THE ESTABLISHMENT OF PHYSICAL EXERCISE PROGRAMMES IN REDUCING NON-COMMUNICABLE DISEASES**

### **9.1 INTRODUCTION**

The World Health Assembly (WHA) resolution urge countries “to develop a national policy framework considering several instruments such as healthy public policies creating an environment conducive to healthy lifestyles, fiscal and taxation policies regarding healthy and unhealthy goods and services, and public media policies empowering the community. Furthermore, the WHA encourage countries to establish programmes, at national or any other appropriate level, in the framework of the global strategy for prevention and control of major non-communicable diseases, and specifically: (a) to develop a mechanism to provide evidence-based information for policymaking, advocacy, programme monitoring and evaluation; (b) to assess and monitor mortality and morbidity attributable to non-communicable disease and the level of exposure to risk factors and their determinants in the population, by strengthening the health information system” (WHA 2000). The WHA put physical exercise on the world’s agenda.

This resolution prompted the World Health Organisation to set in motion strategies to arrest the uncontrollable spread of non-communicable diseases and adopted strategies such as “*Reducing risk, promoting healthy life*” (WHO 2000) as a catalyst that focused country efforts on healthy lifestyle and prioritise the NCD pandemic.

Zhai *et al.* (2021) confirms in his article that looked at participation in physical exercise and health of residents that participation significantly promotes health of residents. He also discovered that the higher the participation, the better the health benefits, the health benefits are more pronounced on the youth and

elderly, the health promotion effects are more in urban than rural areas. He recommends a focus on healthy lifestyle and exercise to promote health, investment on facilities in backward areas and rural areas, and the popularisation of correct methods of performing physical exercise that is beneficial to health. These findings are consistent with the observations of this study.

## 9.2 RECRUITMENT

The study participants ranged from *16 years to over 65-year group* and literature suggested that young people and the elderly will benefit most from physical exercise, although the recruitment should cover most age groups starting with teenagers (WHO, 2020). The study indicated that *more women than men participate* in physical exercise programmes. Schools were identified as the most appropriate site to introduce physical activity by *introducing physical education periods*, which cover short- and long-term benefits of exercise (Moore and Fry, 2017: 468-478). The study suggested that participants who were active in school organised physical education programmes were likely to sustain it outside school. *Formal physical exercise clubs* that exist in communities and *private gymnasia* are also critical stakeholders in recruiting physical exercise participants.

Technological advances have impacted where exercises can be performed, and several participants indicated that they *exercised at home or in outdoor gyms* using videos for instruction or utilising private instructors. The primary objective for recruitment to physical exercise programmes is to inculcate a culture of healthy lifestyle and to improve the health status of the individual and reduce a risk of non-communicable diseases, cancer, mental illness, or cardiovascular disease. Other benefits like weight loss, body fitness, alleviation of stress, improving mental alertness and exercising for competitive sport can be secondary objectives for participation. Certain institutions *recruit sectors* like the elderly, disabled, cardiovascular patients and patients on rehabilitation from injuries (WHO 2020). It is necessary to extend PE programmes to rural areas,



the results indicate that Conditions of Usage in suburbs is better than in rural ( $p < .001$ ) and township is better than rural ( $p = .008$ ).

**Table 9.1 Recruitment criteria**

<b>Recruitment Criteria</b>	<b>Recommendations</b>
1. Age.	<ul style="list-style-type: none"> <li>• 16 years up to 65 years.</li> <li>• Teenagers and elderly will benefit the most.</li> </ul>
2. Gender.	<ul style="list-style-type: none"> <li>• Both males and female.</li> <li>• More women participate in physical exercise programmes.</li> </ul>
3. Site.	<ul style="list-style-type: none"> <li>• Mostly recruited in schools.</li> <li>• Community programmes.</li> <li>• Private gyms.</li> <li>• Outdoor gyms.</li> <li>• Exercising at home using technology (video instructors).</li> <li>• Rehabilitation centres, hospitals, and old age homes.</li> </ul>
4. Benefits of participation (Goals).	<ul style="list-style-type: none"> <li>• Short term benefits- mental alertness, stress alleviation, increased enjoyment of physical activity.</li> <li>• Long-term benefits- increased self-confidence at school, weight loss, body fitness, reduction of non-communicable diseases, prevention of cancer and cardiovascular diseases.</li> <li>• Increased life expectancy.</li> </ul>

### 9.3 HEALTH REQUIREMENTS

Participants who intend to join physical exercise programmes need to be *examined for any health challenge which may be a risk to their health* during exercise. Participants are generally checked for *cardiac disease, hypertension, diabetes* as well as pregnancy. Other ailments and infective conditions will also be noted.

It is expected that members of *clubs conduct a health check-up at regular intervals* and keep their health records; these include biometric data, general examination and the exclusion of any non-communicable and communicable diseases. *Cardiac examinations ought to be mandatory on joining the physical exercise programme* or before competitions. *Health tests for* participants should be based on their needs e.g. pregnant, disabled, chronic disease, musculoskeletal challenges. Where clubs are unable to conduct in-house health check-ups, a relationship should be forged with a local clinic or private general practitioner. A service of a nutritionist may be required or *access to nutritional advice* so that participants are able to incorporate dietary advises with physical exercise.

**Table 9.2 Health Requirements**

Health requirements	Recommended
1. Health check-ups.	<ul style="list-style-type: none"><li>• Regular check-ups on joining, during competition, after injury and when pregnant.</li><li>• When you have a non-communicable condition or an infective condition.</li><li>• To exclude the use of performance stimulating substances.</li><li>• Keep health records.</li><li>• Must have access to nutritional advice.</li></ul>

## 9.4 FACILITIES

The study identified *access to facilities* as critical to the sustenance of physical exercise programmes. The facilities must be *affordable* and within a *short distance* from participants. Where facilities are in short supply or too far, participants drop off the programme. Facilities also contribute to the range of exercises that participants can do with restriction of space. The study found that participants *utilised both private and public facilities*. The *physical condition of facilities* improves the health benefit to the participants and reduces potential harm to the participants. Facilities used for physical exercise programmes vary from open fields, gymnasias, public roads, playgrounds and sport fields for different codes. Some participants utilise their own private dwellings and workspaces to perform physical exercises.

*Proper lighting, ventilation and physical safety* of the exercise space or facility is fundamental. *Investment in facilities* in townships and rural areas where there are few and in poor state is important; and the study found that the townships and rural areas lagged in the number of available facilities, as well as in the poor condition of facilities compared to urban areas. This resulted in low numbers of participants in areas with few and poor facilities. It also resulted in the *potential for injuries* if the facilities are in poor and unsafe condition. The literature has indicated that the state can also *invest in public gyms* and this has been shown to increase the physical fitness of the populace in the vicinity of the facilities.

The facilities must be *adequately equipped with equipment* to perform both aerobic and strength exercises that will benefit the cardiac and musculoskeletal systems, respectively. Participants complained of a lack of equipment which resulted in them sharing or improvising for certain exercises. A potential for injury exists if the equipment is not correct or exercises are incorrectly performed due to lack of correct equipment. The study revealed that most participants exercised before work and after work and *utilised both workplace and community facilities*. Panther *et al.* (2007) notes that levels of deprivation

are related to poor availability of exercise facilities and concludes that if government is to improve levels of physical fitness and reduce inequality it may need to intervene where markets are creating inequality in resources. Local government and the Department of Education must *enter into agreements for the co-use of facilities by schools and communities*. This agreement will also assist municipalities to invest in basic services like the *supply of water and sanitation* to playfields as well as *to allow communities access to school fields*, which would be *maintained by the municipalities* through a memorandum of agreement.

**Table 9.3 Essential features in facilities**

Essential features of facilities	Requirements
1. Accessibility.	Easily accessible.
2. Affordability.	Must be affordable or free.
3. Proximity.	Near to residents.
4. Condition.	Well maintained.
5. Equipment.	Adequately equipped.
6. Safety.	Physical safety and well lit.
7. Public or Private.	Investment in public and workplace facilities essential.
8. Cooperative agreements between schools and municipalities.	<ul style="list-style-type: none"> <li>• Shared use of facilities and maintenance.</li> <li>• Supply of basic services to schools like water and sanitation.</li> </ul>

## 9.5 PHYSICAL EXERCISE CONDITIONS

The exercise programme can take many forms, participants in the study were involved in *group sport, individual sport, recreational and aerobic and strength exercise*. When participants were introduced to physical activity it was generally through sport and athletic activities at school. Most sessions of physical activity

take *between 30 minutes to a maximum of 90 minutes*. Most participants exercise *at least three to four times a week*.

Literature has categorised physical activity into three groups: *mild* (slow walking and stretching), *moderate* (brisk walking, cycling, weightlifting etc) and *vigorous exercise* (jogging, running, swimming, etc). The WHO (2010) determined the guidelines for beneficial physical activity, and this has been confirmed through studies such as Adamu *et al.* (2006) *for adults as 150 minutes of moderate to intense physical activity per week and for adolescents as 60 minutes of moderate to vigorous activity daily*. As previously indicated by Janssen and Le Blanc (2010), the *health benefits due to physical exercise are dose dependent* meaning the higher the physical activity, the more benefits will be achieved.

**Table 9.4 Physical Exercise Conditions**

Physical activity conditions	Recommendations
1. Type of exercise.	<ul style="list-style-type: none"> <li>• Group sport.</li> <li>• Individual sport.</li> <li>• Aerobics.</li> <li>• Strength exercise.</li> </ul>
2. Duration per session.	<ul style="list-style-type: none"> <li>• Mild (60-90 minutes).</li> <li>• Moderate (45-90 min).</li> <li>• Vigorous (30-45 min).</li> </ul>
3. Frequency.	<ul style="list-style-type: none"> <li>• 3-4 times a week.</li> </ul>
4. Impact on health.	<ul style="list-style-type: none"> <li>• Moderate to vigorous exercise for 150 for adults per week.</li> <li>• Moderate to vigorous exercise for 60 minutes daily for adolescents.</li> </ul>

## 9.6 ACCESS TO A COACH/ TRAINER

The physical exercise programme relies *on trained coaches* to succeed. Most participants in the study had access to a trained coach and this resulted in

*correct exercises being performed*. Some of the participants complained that courses to upgrade coaches were in *inaccessible venues and institutions*.

Watson *et al.* (2012) found that *virtual coaches were commonly* used in a study dominated by college students, and this encouraged more participation. The increase of participants in physical activity who did not attend gyms or clubs makes *virtual coaches a viable option in the absence of a trained coach*. Short and Short (2005) described the relationship of an athlete and a coach as a special relationship, that *allows the athlete to perform at a high level* if there is connectedness and mutual respect.

The athlete needs to *trust the expertise of the coach* so that they can give their best. If the coach is not knowledgeable, they *may sustain injuries* or over exertion *due to poor training methods*. The participant may lose interest in physical exercise programmes if the coach is poorly trained.

**Table 9.5: Characteristics of a coach**

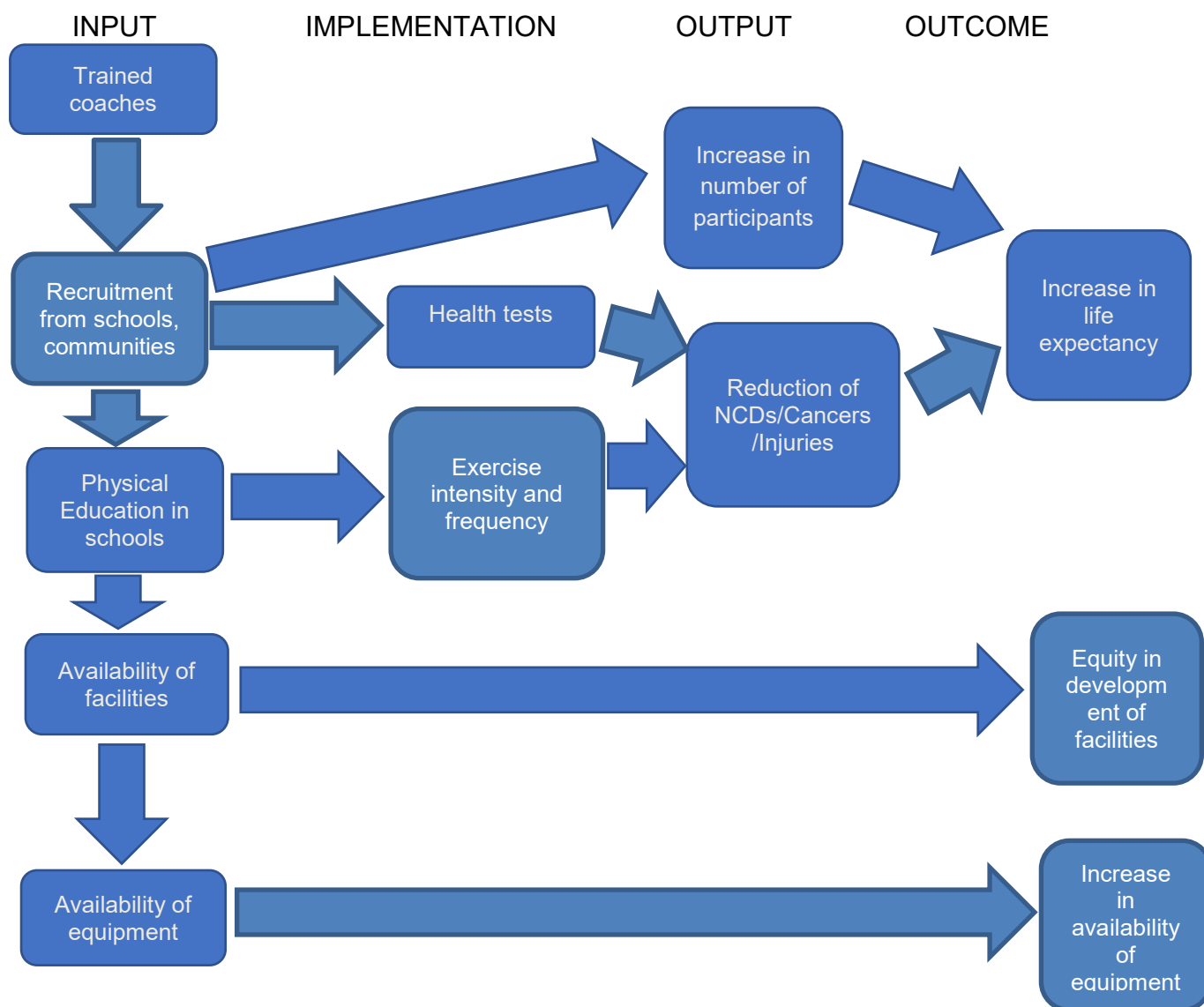
Characteristic	Recommendation
Access to a trained coach.	Must be knowledgeable.
Virtual coaching where there is no access to a coach.	Must have mutual trust and respect.
Good training methods.	Limit or avoid injuries. Improve interest and performance of participant.

Short and Short (2005) defined a skilled coach as one who fulfils the following roles: a teacher, organiser, competitor, learner, friend and mentor.

The framework will therefore have inputs, implementation process, output, and outcome (impact).

**Table 9.6 Framework elements**

<b>Input</b>	<b>Implementation</b>	<b>Output</b>	<b>Outcome</b>
<b>Recruitment of members</b>	Exercise Programme intensity	Increase in number of participants	Increase in life expectancy
<b>Facilities</b>	Investment in facilities	Increase in access to facilities	Equity in distribution of facilities
<b>Equipment</b>	Maintenance /access	Increase availability of equipment	Equity in distribution of equipment
<b>Trainers (coaches)</b>	Availability of training courses	Improve level of coaches	Improved skill of coaches
<b>Health tests</b>	Health protocols	Physical fitness Mental alertness	Prevention and reduction of NCDs, cancers and chronic cardiac diseases



**Figure 9.1: Presentation of the Framework for Physical Exercise**

## **9.7 MEASURES PUT IN PLACE TO EVALUATE RELEVANCE AND APPROPRIATENESS OF THE DEVELOPED FRAMEWORK**

The framework can be evaluated by assembling a group of researchers with experience as indicated by Moore *et al.* (2015) who convened a group of experts to understand causal assumptions underpinning the interventions, undertook a process evaluation, reviewed the context in which the intervention was implemented, checked whether the dose of intervention was adequate or not, as well as whether the intervention was adaptable. The framework can also be evaluated through peer review methods.



## **9.8 SUMMARY OF THE CHAPTER**

The framework identified five critical areas of interest that are fundamental to the development of a successful physical exercise programme and these areas of interest can be implemented in all types of settings irrespective of social status. The identified areas are related to: (1) early recruitment of youth into physical exercise programmes and this is linked to schools providing physical education classes. The other areas are (2) implementation of health requirements and protocols; (3) development of conducive facilities for training with equipment; (4) physical exercise programme condition and (5) access to a skilled coach. The chapter outlined how these areas form the backbone of any physical exercise programme and made recommendations on how these could be implemented. The next chapter will outline the limitations of the research and conclude on the recommendations of the study including further research that is required to explore it further.

## **CHAPTER 10**

### **SUMMARY, LIMITATIONS, CONCLUSION AND RECOMMENDATIONS OF THE STUDY**

#### **10.1 INTRODUCTION**

The objectives of the study as outlined in Chapter 1 are to:

1. Determine the variables, dimensions and elements that will inform the policy framework development;
2. Evaluate the extent to which the social and economic dynamics of the population under review will affect the policy;
3. Assess the cardiovascular status of the target population impacted by physical exercise;
4. Determine the elements required to develop a policy framework for developing physical activity programmes in KZN; and
5. Identify the challenges that hinder the setting up of physical exercise programmes.

The first phase (qualitative) interviewed coaches and experts then identified common themes that emerged from the interviews. Eight (8) main themes with twenty (20) sub-themes were identified. The second phase (quantitative) conducted a survey questionnaire on participants of physical exercise programmes all over eThekweni municipal area. The findings of the study were used to develop a framework for physical exercise to reduce non-communicable diseases.

#### **10.2 LIMITATIONS OF THE STUDY**

Price and Murnan (2004: 66) define limitations of a study as systemic bias that the researcher did not or could not control and which may inappropriately affect the results. The authors further group the limitations into two categories, which are: threats to internal validity of a study, and secondly, threats to the external validity of a study. The internal validity of a study refers to a study that has

measured correctly and achieved accurate results and external validity refers to the sample size, correctly representing the general population whereas a result, results could be generalised for the population. The study area has been researched internationally from different angles, but a limitation identified during literature review is that few local studies have ventured into the impact of physical exercise on health. This is an external validity threat, as the recommendations may not be generalised due to limited research. No framework has been identified locally or in the national Department of Sport and Recreation except for the White Paper on Sport and Recreation.

During Phase 1, the number of government representatives involved in physical activity that were available for interviews was limited. The Municipal Sport and Recreation Department and Provincial Health representatives were interviewed but could not secure provincial Sport and Recreation government representative, and this could impose limitations on information of support provided by the provincial sphere of government to participants or clubs.

Phase 2 (quantitative) surveyed participants in different physical exercise programmes across the city where a limitation was the inability to visit old age homes and gain information from those in care centres, where, due to the disaster management regulations that were aimed at managing the spread of COVID-19, access to these care centres (old age homes) was denied. However, the elderly persons were reached through clubs and gymnasias. Lack of access to schools was also a limitation, although a sizeable number of scholars were reached, but not all schools allowed access due to COVID-19 regulations. The limitation was cured through access to a particular school that allowed learners to fill out questionnaires being supervised by their teachers, but unfortunately, access to old age homes could not be achieved and the limitation is mitigated by referring to literature on studies in such facilities.

## **10.3 CONCLUSIONS**

### **10.3.1 Summary**

The findings of Phase 1 (qualitative) indicated that physical exercise is best introduced at schools and most participants were recruited through school activities or sport. This highlighted the need for physical education in schools as it inculcated a culture of physical activity and healthy lifestyle. The participants decried the fact that teachers were not properly trained to conduct physical education classes. The participants in Phase 1 concluded that physically active scholars benefitted in mental alertness, and it reflected on their grades as well. This was confirmed in the broader literature, which also confirmed that if recruited early and physical education is provided, the participants are likely to sustain physical activity even in the community. South Africa lacks physical education at schools and as the research indicates there is also an urban-rural divide in terms of availability of facilities, the study will therefore contribute significantly to muster support for introduction of school-based PE programmes.

Phase 1 and Phase 2 confirms that the availability of the training facilities has an impact on the continued participation in physical exercise programmes. It also concludes that facilities in urban areas are in a better state than those in townships and rural areas, respectively. Rural areas have the poorest condition of facilities and the least usage of facilities. The study agrees that there is a lack of health check-ups of participants on joining, during the programmes and during competitions. Participants indicate that health check-ups are not routinely done. A recommendation to improve health protocols and to develop a relationship between health facilities and clubs was made. This is a health promotion approach that will be included in the framework policy linking health check-ups, community exercise programmes and monitoring the health benefits of the PE programme.

Phase 1 concluded that courses were inaccessible to coaches due to workshops and training venues being in urban centres only. This had an impact of a limited number of qualified coaches. This couldn't be confirmed during the quantitative phase, as most participants could not remember being trained by a fellow participant or an unqualified coach. Phase 1 of the study concluded that there was a lack of equipment, which resulted in participants being poorly or inadequately trained. It also resulted in participants improvising certain exercises.

The findings of this study confirm the earlier study by Cereijo *et al.* (2019) that highlights that evidence indicates that greater local access to sports facilities, such as gyms and sports fields, is independently associated with lower levels of obesity, it also found an interconnectedness between the availability of exercise facilities and exercise. Where a higher combined availability of local exercise facilities and parks exists, there is lower odds of obesity and programmes where exercise facilities (e.g. gyms) are available tend to be structured and at moderate to vigorous intensity resulting in greater health benefits.

The study collaborates and concludes that the training sessions could be categorised as minimum, moderate and vigorous exercises, and most participants trained for 90 minutes for minimum exercises, 45-90 minutes for moderate and 45 minutes for vigorous exercises. They all exercised an average of 3.87 for mild exercise, 3.71 for moderate, and 3.65 for vigorous exercise days per week. The participants showed a lower level of NCDs suggesting a health benefit of physical exercise. The WHO (2020) recommends exercise of at least 150 minutes per week or 30 minutes of brisk walking per day as beneficial to reducing non-communicable diseases and coronary heart disease. Phase 1 also raised security and safety concerns for participants related to poor physical security in certain training environments including poor lighting, air-conditioning and ablution facilities. These could not be confirmed in the quantitative phase as significant findings.

The study indicated that few PE programmes performed Health screening tests during their programmes resulting in injuries and failure to pick up NCDs early resulting in poorly controlled chronic conditions. The availability of health screening programmes alongside PE programmes will be recommended in the framework.

### **10.3.2 Theoretical contribution of the study**

The results confirm previous information that PE has a health benefit to individuals; a significant 93% of participants do not suffer from chronic heart disease or hypertension,  $p < .001$ . The study did not find an association between increased exercise dose intensity and health benefit. It also emphasises that a health promotion approach is necessary to achieve the benefit. The theory of health promotion focuses on interventions directed to individuals with an attainable health benefit as a target (reward). Health promotion approach encourages individuals not to focus on PE only to achieve the health benefit, the participants indicated the need for nutritional advice, treatment of conditions as well in combination with exercise. Of those who do suffer from chronic heart disease or hypertension, a significant 76% take chronic medication for it,  $p = .015$ .

### **10.3.3 Practical contribution of the study to policy making**

Analysis using the Welch test shows that there is a significant difference in the facilities (FAC) depending on where they are situated,  $p < .001$ . Post hoc analysis using the Games-Howell test shows that: facilities in the suburbs are significantly better than in the townships ( $p = .001$ ), in the informal settlements ( $p = .012$ ) and in rural areas ( $p < .001$ ). In addition, facilities are significantly better in the townships than in rural areas ( $p < .001$ ). This will contribute to spatial planning of facilities and assist government in the development of human settlements and creation of facilities for recreation and exercise.

#### 10.3.4 Managerial implications of the study:

**Government:** the study highlighted:

- the need to focus on key variables like availability of physical exercise infrastructure, access to a trained coach and access to a health facility to develop an effective PE programme;
- the importance of early introduction to PE so that government programmes of health promotion are mainstreamed as part of healthy lifestyle;
- the need to achieve a healthy population so that the spend on healthcare is reduced by reducing NCDs;
- the need to invest in public PE facilities and equipment so that all communities access PE programmes;
- the importance of developing tools to monitor health risks during physical exercise programmes to monitor NCDs and reduce injuries; and
- The necessity to develop nutritional programme aligned to PE programmes to strengthen the health policy on PE.

**Population:** The implication of the study is that:

- PE promotes a reduction of NCDs;
- Reduction of mortality with PE; and
- Longevity - increased life expectancy with moderate intensive exercise of not more than 90 minutes per session.

Like the conclusions of this study, Cong L. *et al* (2021) in a study in China conclude having carried out different tests that the degree of influence of participation in physical exercise on the health level of participants varies according to the different area and individual characteristics. They conclude that the effect of urban residents' physical exercise to improve their health level is better than that of rural residents. They were also able to associate health benefits with high educational levels and people with high incomes. These conclusions form the core pillars of the policy framework for PE.

## **10.4 RECOMMENDATIONS**

The study recommendations that emerged during the discussion of the merged results of both the qualitative and quantitative phases in Chapter 8 should be implemented. These include participation in school Physical Education (PE) as critical for recruitment, early start into physical exercise programmes, improve access to facilities and equipment and reduce costs associated with access, improve health check-up availability for participants, improved state of facilities and availability in rural and township areas compared to urban areas, access to trained coaches, as well as access to nutritionists to participants.

### **10.4.1 Strengthening of physical education sessions at schools**

The recommendations include the strengthening of physical education sessions at schools as the bedrock of sustaining physical exercise culture from an early age. The introduction of role models to the youth who will encourage healthy lifestyle and exercise has been identified as critical to sustaining physical activity in communities, especially among girls. Physical Education is the prerogative of the Department of Basic Education, and therefore, discussions with them to invest in teachers who are competent in this field is vital. The inclusion of other professionals like nutritionists and physiotherapists and psychologists will strengthen the physical education programme and develop both physical and mental capacity of the participants.

### **10.4.2 Health protocols to reduce injuries and diseases**

The study recommends the introduction of health protocols to reduce injuries and disease among participants, where the health protocols should consist of a medical examination or health check-ups including a cardiac profile for participants at regular intervals such as joining the programme annually and during competition. Those with underlying conditions or at risk of non-communicable diseases should do this more frequently. Jones and Knapik (1999) reported that in the US military the most common cause of injuries from physical activity was running, while the other causes were found to be related



to low levels of physical fitness, high and low levels of flexibility, sedentary lifestyle and tobacco use.

#### **10.4.3 Physical activity protocols to achieve health outcomes**

Participants ought to exercise at least four times a week for a session of about 45-90 minutes. The exercises should be mixed involving both moderate to vigorous and mild exercises. Extant literature confirms that physical exercise in the manner proposed reduces NCDs and extends life expectancy and reduces death by 30 percent. Both strength and aerobic exercises ought to be included in the routine to benefit the cardiac and musculoskeletal systems during exercise.

Josefsson, Lindwall and Archer (2014) identified several health benefits that are linked to physical activity, showing that conclusive evidence exists that regular exercise is beneficial in primary prevention, treatment and rehabilitation for many chronic diseases (e.g. cardiovascular disease, diabetes, cancer), as well as for premature mortality indicated by Warburton *et al.* (2006) and Haskell *et al.* (2007).

Mental health has also benefited from physical activity, as outlined in Mutrie and Choi (2000) and Landers and Arent (2007). Studies by O'Neal *et al.* (2000) and Landers and Arent (2007) confirm the effectiveness of physical exercise on depression reported significant reduction of depressive symptoms in clinical as well as non-clinical populations.

#### **10.4.4 Availability of physical activity facilities and equipment**

Government should invest in exercise facilities and equipment so that many members of the population can benefit from physical exercise and healthy lifestyle. For government to reach all communities, it is proposed that a memorandum of agreement is entered into by the local authority, provincial departments of Sport and Recreation and Department of Education for the sharing of school facilities with communities. This agreement will also facilitate

the involvement of local government in the maintenance and upkeep of these facilities.

#### **10.4.5 Improve access to a trained coach**

The introduction of virtual coaches will assist to increase access to formal coaching at home. The virtual platforms cater for convenience, as participants can exercise at their homes and when the time avails itself. The advent of outdoor gyms will also encourage communities to participate in physical activity without spending on clubs. Clubs should be developed around the vicinity of outdoor gyms so that usage is encouraged. Trained coaches must also be attached to the clubs.

#### **10.4.6 Develop physical activity programmes in the workplace and in healthcare centres**

Employers and schools should dedicate time to physical exercise programmes and dedicate space for such activities. Focused programmes should be developed for communities at risk of NCDs, mental illness, cardiovascular disease, and cancer so that they can reduce the risk of illness. The elderly, who are prone to non-communicable diseases like hypertension, diabetes mellitus and cancers, should be considered a special group, and ought to ensure access to such physical activity programmes. The intervention with physical exercise in health centres and frail care centres, combined with nutritional advice is reported by Abizanda *et al.* (2015) to result in the improvement in physical performance and development of muscle mass in frail elderly persons.

#### **10.4.7 Improve safety and security**

The participants complained of unsafe and insecure environments that lacked lighting, air conditioning, and general safety of the grounds. This requires investment in maintenance of the training facilities so that participants are free of injury. Some participants complained of physical security in the vicinity of training facilities, which require street lighting and fencing of venues. Due to

some areas being remote and away from communities, in order to improve security, there may be a need for security guards to be sourced or to ensure that training doesn't occur after dark or too early in the morning. To improve security, participants are encouraged to train in groups.

#### **10.4.8 Further research**

To influence the application of the framework in physical exercise programmes, the study findings will be presented at different government forums, both local, national, and international, as well as in academic and sporting sector forums. Academic papers will also be published to further research on impact of the introduction of outdoor gyms in Ethekewini Municipality, while schools will also be targeted to follow up on the introduction of physical exercise classes with the performance of scholars academically and in physical exercise programmes. The impact of physical exercise in persons in frail care centres and old age homes still need to be researched further.

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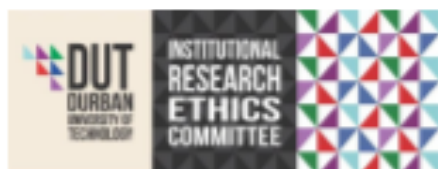
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# APPENDICES

## Appendix 1: University Ethics Clearance



Institutional Research Ethics Committee  
Research and Postgraduate Support Directorate  
2nd Floor, Beneyis Court  
Gate 1, Saxe Biko Campus  
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 3375

Email: [irec@dut.ac.za](mailto:irec@dut.ac.za)

[http://www.dut.ac.za/research/institutional\\_research\\_ethics](http://www.dut.ac.za/research/institutional_research_ethics)

[www.dut.ac.za](http://www.dut.ac.za)

3 August 2020

Dr M Gumede  
24 Kelvin Place  
Durban North  
4051

Dear Dr Gumede

**Development of a policy framework for the establishment of physical exercise programmes in reducing non-communicable diseases in the province of KwaZulu-Natal, South Africa**

**Ethical Clearance number IREC 072/20**

The Institutional Research Ethics Committee acknowledges receipt of your gatekeeper permission letters.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC Standard Operating Procedures (SOP's).

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

\_\_\_\_\_  
Dr M A Sathar  
Deputy Chairperson: IREC

## **Appendix 2a: Letter of request for gatekeeper permission**

24 Kelvin Place  
Durban North  
4051  
[Date]

The Manager  
XXXX  
Durban  
4000

Dear Participant

---

### **Request for Permission to Conduct Research**

---

Dear Participant

My name is Musa Gumede, a PhD in Health Sciences student at the Durban University of Technology. The research I wish to conduct for my Doctoral thesis involves Development of a policy framework for the establishment of physical exercise programmes in reducing non-communicable diseases in the province of KwaZulu-Natal, South Africa.

I am hereby seeking your consent to interview you on the subject matter.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact my supervisor, Prof M.N. Sibiyi on [nokuthulas@dut.ac.za](mailto:nokuthulas@dut.ac.za). Thank you for your time and consideration in this matter.

Yours sincerely,

.....  
Musa Gumede  
Durban University of Technology  
Email: [musagumede@me.com](mailto:musagumede@me.com)

## Appendix 2b: Approval letters from the gatekeepers



POD 7, GROUND FLOOR, INTUTHUKO JUNCTION, 750 MARY THIPHE STREET, UMKHUMBANE, CATO MANOR, DURBAN 4001  
TEL: 031 321 4513, FAX: 031 261 3495, FAX TO EMAIL: 086 265 7165, EMAIL: MILE@DURBAN.GOV.ZA, WEBSITE: WWW.MILE.ORG.ZA

For attention:  
Chair of Research Ethics Review Committee  
Faculty of Health Science  
Durban University of Technology  
Durban  
4001

10 July 2020

RE: LETTER OF SUPPORT TO M. GUMEDE, STUDENT NO. 21751941 - GRANTING PERMISSION TO USE  
ETHEKWINI MUNICIPALITY AS A STUDY SITE FOR A DOCTORAL RESEARCH

The Act, City Manager and Municipal Institute of Learning (MILE) in eThekweni Municipality, have considered a request from Dr Musa Gumede to use eThekweni Municipality as a research study site in fulfilment of a Ph.D. in Health Sciences research study entitled "Development of a policy framework for the establishment of physical exercise programmes in reducing non-communicable diseases in the province of KwaZulu-Natal, South Africa."

We wish to inform you of the acceptance of this request and hereby assure the student of our utmost cooperation towards achieving his research goals; the outcome which we believe will help this municipality improve on its services using the research outputs. The student is reminded of the ethical considerations as well as the current COVID-19 related regulations as per the Disaster Management Act (2020) when conducting the research. In return, we stipulate as conditional that the student presents the results and recommendations of this study to the related unit/s on completion.

Wishing the student all the best.

Act, City Manager  
eThekweni Municipality

Dr. Collin Pillay  
Program Manager: MILE

Musa Gumede

I hereby accept as conditional that I will comply fully as per the conditions stipulated above.

Signed: \_\_\_\_\_ Date: 12/07/2020



**health**

Department:  
Health  
PROVINCE OF KWAZULU-NATAL

Physical Address: 330 Langalobale Street, Pietermaritzburg  
Postal Address: Private Bag X9051  
Tel: 033 395 2859/ 3189/ 3123; Fax: 033 394 3782  
Email: [hrkm@kznhealth.gov.za](mailto:hrkm@kznhealth.gov.za)  
[www.kznhealth.gov.za](http://www.kznhealth.gov.za)

DIRECTORATE:

Health Research & Knowledge  
Management

NHRD Ref: KZ\_202007\_007

Dear Dr M Gumede  
(DUT)

**Approval of research**

1. The research proposal titled 'Development of a policy framework for the establishment of physical exercise programmes in reducing non-communicable diseases in the province of KwaZulu-Natal, South Africa,' was reviewed by the KwaZulu-Natal Department of Health (KZN-DoH).

The proposal is hereby **approved** for research to be undertaken at eThekweni District.

2. You are requested to take note of the following:

- a. *All research conducted in KwaZulu-Natal must comply with government regulations relating to Covid-19. These include but are not limited to: regulations concerning social distancing, the wearing of personal protective equipment, and limitations on meetings and social gatherings.*
- b. *Kindly liaise with the facility manager BEFORE your research begins in order to ensure that conditions in the facility are conducive to the conduct of your research. These include, but are not limited to, an assurance that the numbers of patients attending the facility are sufficient to support your sample size requirements, and that the space and physical infrastructure of the facility can accommodate the research team and any additional equipment required for the research.*
- c. *Please ensure that you provide your letter of ethics re-certification to this unit, when the current approval expires.*
- d. *Provide an interim progress report and final report (electronic and hard copies) when your research is complete to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to [hrkm@kznhealth.gov.za](mailto:hrkm@kznhealth.gov.za)*
- e. *Please note that the Department of Health shall not be held liable for any injury that occurs as a result of this study.*

For any additional information please contact Ms G Khumalo on 033-395 3189.

Yours Sincerely

Dr E Lutge

Chairperson, Health Research Committee

Date: 11/07/2020



## sport and recreation

Department:  
Sport and Recreation  
PROVINCE OF KWAZULU-NATAL

OFFICE OF THE SENIOR MANAGER: STRATEGIC  
MANAGEMENT SUPPORT SERVICES

135 PIETERMARITZ STREET  
PIETERMARITZBURG  
Private Bag X 9141  
PIETERMARITZBURG, 3200

Enq.: Mr. S. Mamele  
[SiyaBonjla.mamele@kzn.gov.za](mailto:SiyaBonjla.mamele@kzn.gov.za)  
Tel: (+2733) 8978499  
Fax: (+2733) 3429564

### MEMORANDUM

TO : Dr. M. Gumede  
FROM : Dr. CT. Sifunda  
DATE : 06 June 2020  
SUBJECT : Letter of consent to conduct research with the KZN department of Sport and Recreation

Dear Dr. Gumede

#### Consent to conduct research

Your letter of request dated 04 July 2020 has reference.

I have the pleasure of granting you permission to conduct research for a doctoral thesis titled "The Development of a Policy Framework for the establishment of physical exercise programmes in reducing non-communicable diseases in the province of KwaZulu-Natal, South Africa.

I wish you success with a hope that your work will be shared with and benefit the academic fraternity, the Department and the people of KwaZulu-Natal, in general.

Yours Sincerely

Dr. CT. Sifunda  
Head of Department

23/07/2020  
Date



Chairperson: Cell 071 926 4586  
Email: [sbu.dlamini20@gmail.com](mailto:sbu.dlamini20@gmail.com)



Secretary: Cell 0834181949  
0615951081  
Email: [dumisaninxele29@gmail.com](mailto:dumisaninxele29@gmail.com)

To : Dr Musa Gumede

Durban University of Technology

From : Mr. Sbusiso Dlamini

EThekweni Sports Confederation

Date : 06 July 2020

Subject: **APPROVAL FOR MUSA GUMEDE TO CONDUCT RESEARCH**

Dear Dr Gumede

This letter serves to confirm that the eThekweni Sport Confederation Chairperson, Sbusiso Dlamini gave the approval to Musa Gumede to participate in research interviews on the eThekweni Sports Confederation affiliated members, federation and administrators conduct research.

Furthermore we would like to confirm that we received copy of your proposal and copies of the data collection tools.

For more information please don't be hesitant to contact me or secretary via email or telephonically; [sbu.dlamini20@gmail.com](mailto:sbu.dlamini20@gmail.com) 0719264586 [dumisaninxele29@gmail.com](mailto:dumisaninxele29@gmail.com) 083 418 1949.

Thanking you in anticipation

Yours Sincerely

Sbusiso Dlamini

Chairperson, EThekweni Sports Confederation

#### Executive Committee

Chairperson: Mr. Sbusiso Dlamini, Deputy Chairperson: Mr. Jabulani Nomsa, Secretary: Mr. Dumisani Nxele,  
Deputy secretary: Ms. Zoliswa Zikhali, Treasurer: Ms. Nolwandle Khumalo, Transformation & development: Mr. Asanda Samede,  
Additional Members: Ms. Nomusa Maphisa, Ms. Senelele Mkhanya, Mr. Nthandeni Khumalo, Mr. Senzo Molele, Mr. Ivan Dlamini.

### Appendix 3: Letter of Information for interview participants



Dear Participant

Thank you for agreeing to participate in this study.

**Title of the Research Study:**

Development of a policy framework for the establishment of physical exercise programmes in reducing non-communicable diseases in the province of KwaZulu-Natal, South Africa.

**Principal Investigator/s/researcher:** Dr Musa Gumede, PhD: Health Candidate.

**Co-Investigator/s/supervisor/s:** Prof T.I. Nzimakwe, D Admin (Supervisor); Prof M.N. Sibiya, D Tech: Nursing (Co-supervisor).

**Brief Introduction and Purpose of the Study:** There is ample evidence that engaging in physical exercise programmes improves life expectancy of people with life threatening non-communicable conditions. The study will focus on physical exercise programmes as an intervention to achieve a healthy lifestyle. Development of a framework means formulation of policies and guidelines that can be used by different communities to formulate healthy lifestyle programmes that are based on evidenced based principles. The aim is to build programmes that are consistent, affordable, accessible and sustainable.

**Outline of the Procedures:** You are requested to participate on one-on-one interview that will last for about an hour. I kindly request for permission to voice record the discussion. The interviews will be setup by an appointment at the place of your convenient.

**Risks or Discomforts to the Participant:** There are no risks are envisaged for participating in the study.

**Benefits:** The research will produce a policy framework that will apply across the province of KZN to implement physical exercise programmes benefiting all participants in such programmes.

**Reason/s why the Participant May Be Withdrawn from the Study:** You are free to withdraw from the study at any time and there will be no penalty.

**Remuneration:** You will not receive any remuneration or incentives for participating in the study.

**Costs of the Study:** You will not bear any costs or contribute any amount towards the study.

**Confidentiality:** Your name will not be used in the study; instead, codes will be used to ensure anonymity.

**Research-related Injury:** There is no anticipated research-related injury for participating in the study.

**Persons to Contact in the Event of Any Problems or Queries:** Please contact the researcher on 083 272 0727 or my supervisor, Prof M.N. Sibiya on 031-373 2284 or the Institutional Research Ethics Administrator on 031-373 2375. Complaints can be reported to the DVC: Research, Innovation and Engagement Prof S Moyo on 031-373 2577 or [moyos@dut.ac.za](mailto:moyos@dut.ac.za)

## Appendix 4: Consent

### Appendix 3: Consent



#### Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Dr Musa Gumede about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: 072/20.
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

\_\_\_\_\_  
Full Name of Participant  
Thumbprint

\_\_\_\_\_  
Date

\_\_\_\_\_  
Time

\_\_\_\_\_  
Signature / Right

I, Musa Gumede herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Musa Gumede  
Full Name of Researcher

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Full Name of Witness (If applicable)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Full Name of Legal Guardian (If applicable)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

## Appendix 5a: Demographic data

### SECTION A: DEMOGRAPHIC DATA

Participant number:

Date: \_\_\_\_\_

Age: \_\_\_\_\_

Gender: \_\_\_\_\_

Residence: \_\_\_\_\_

## **Appendix 5b: Interview guide**

### **SECTION B: INTERVIEW QUESTIONS**

- How are participants recruited/chosen or identified?
- What are the reasons given when members join the club?
- How often do you exercise and what do you perceive as benefits of exercising?
- Are any health check-ups provided to participants and how often?
- What exercise programmes are offered by your club or group?
- What resources or equipment would you like the programme to have?
- Do you use any manual or guide to perform the exercise programme? If none, please outline your programme structure.
- What qualifications do the trainers possess? If none what would you like them to be trained on?
- What kind of support would you like to receive from government, businesses or non-governmental organisations? Do you receive any support currently?
- What would you like to improve in the exercise programme currently offered by the club?
- What is the social status of club members e.g. are they working, at school or unemployed?
- Do club members dedicate enough time to participate in exercise activities?
- How are the community views about exercise programmes?
- How is the club membership constituted in terms of gender and age?

## Appendix 6: Questionnaire

### Questionnaire

#### Instruction

For each question, select the one response that best applies to you.

#### A. DEMOGRAPHICS

1. Age group

Less than 18 years	18 – 35 years	36 – 50 years	Over 50 years

2. Gender

Male	Female

3. Employment profile

Scholar/Student	Employed	Unemployed	Retired/Pensioner

4. Residence

Suburb	Township	Informal Settlement	Rural

#### B. PHYSICAL ACTIVITY PROFILE

5. Did you participate in any physical exercise programme/sport while at school?

Yes	No

6. Did your school have physical education periods during the school day?

Yes	No

7. Did your school offer any physical exercise / sporting programmes (e.g. soccer, netball, athletics, fitness etc) after school?

Yes	No

7.1 If YES to q7, indicate which of the following physical exercise programmes or sports were offered at your school? (Tick **all** that apply)

7.1.1 Aerobics	
7.1.2 Jogging / athletics	
7.1.3 Weightlifting	
7.1.4 Team sport e.g. soccer etc	
7.1.5 Individual sport e.g. tennis, boxing	
7.1.6 Other	

If you ticked OTHER, please specify the exercise programmes/ sports that were offered: \_\_\_\_\_

8. Do you regularly participate in **mild exercise** (e.g. slow walking, stretching)?

Yes	No

8.1 IF YES TO q8, on how many days in a 7-day week do you participate in **mild exercise**? \_\_\_\_\_ days



8.2 IF YES TO q8, for how long, on average, do you do **mild exercise** on a single day?

< 45 minutes	45 – 90 minutes	>90 minutes

9. Do you regularly participate in **moderate exercise** (e.g. brisk walking, cycling, weightlifting, softball)?

Yes	No

9.1 IF YES TO q9, on how many days in a 7-day week do you participate in **moderate exercise**? \_\_\_\_\_ days

9.2 IF YES TO q9, for how long, on average, do you do **moderate exercise** on a single day?

< 45 minutes	45 – 90 minutes	>90 minutes

10. Do you regularly participate in **vigorous exercise** (e.g. jogging/running, swimming, basketball, soccer)?

Yes	No

10.1 IF YES TO q10, on how many days in a 7-day week do you participate in **vigorous exercise**? \_\_\_\_\_ days

10.2 IF YES TO q10, for how long, on average, do you do **vigorous exercise** on a single day?

< 45 minutes	45 – 90 minutes	>90 minutes

### C. CARDIOVASCULAR STATUS

11. Do you suffer from a chronic heart disease or hypertension (high blood pressure)?

Yes	No

11.1 IF YES to q11, do you take chronic medication for heart disease or hypertension?

Yes	No

12. Have you experienced the following symptoms?

Symptom	Yes	No
12.1 Chest pains		
12.2 Tingling sensation in hands		
12.3 Shortness of breath (when at rest)		

## D. GENERAL INFORMATION

13. Respond YES, NO, NOT SURE or N/A (not applicable) to each of the following items:

	Yes	No	Not sure	N/A
<b>Coaching</b>				
13.1 Do you have access to a coach/ trainer who can assist you with your chosen exercise programme?				
13.2 In your experience, has a fellow (unqualified) participant taken the training session instead of a qualified trainer/ coach?				
<b>Funding</b>				
13.3 Do you pay a fee to use the facilities?				
13.4 Is there a sponsor that assists with running costs of the exercise facility?				
13.5 Is the programme run on a voluntary basis by members of the community?				
<b>Exercise programmes (All types of physical training / sports)</b>				
13.6 Do you normally exercise before working hours?				
13.7 Do you normally exercise during working hours?				
13.8 Do you normally exercise after working hours?				
13.9 Do the exercise programmes available at the facility run according to a fixed schedule?				

13.10 Are the exercise programmes at the facility customised for different age groups?				
	Yes	No	Not sure	N/A
<b>Security</b>				
13.11 Is there a security guard at the training venue?				
13.12 Do the training grounds have flood lights?				
<b>Health</b>				
13.13 Does your exercise facility offer any health check-up to participants/ members?				
13.14 Do you regularly visit a health facility for a check-up?				
13.15 Do you ONLY go for a health check-up when you are ill or injured?				
13.16 Do you have a health check-up some time during the season when you are competing in competitions?				
13.17 Were you required to have a health check-up when you joined this exercise facility?				
13.18 Does your exercise facility keep records of your health check-up?				
13.19 Does the facility offer strength/cardio exercise programmes?				
<b>Exercise facilities in the workplace</b>				
13.20 Are exercise programmes offered during working hours at your place of work/study?				

13.21 Are there exercise facilities at your place of work/study?				
13.22 Are exercise programmes offered before or after working hours at your place of work/study?				

14 Indicate your agreement with the following statements:

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree
14.1 The external facility/ grounds where we exercise is in a good state.						
14.2 The gymnasium/ exercise facility is generally well maintained.						
14.3 The facility is easily accessible to me.						
14.4 The facility caters for all my needs.						
14.5 Using the facility is affordable for me.						
14.6 I feel safe/ secure using the facility.						
14.7 As a participant/ member, the necessary equipment that I need for my chosen programme is available for my use from/at the facility.						
14.8 As a participant/ member, I know how to use the equipment at my disposal.						
14.9 There is always someone available to assist me if I don't know how to use equipment.						
14.10 The training equipment is safe to use and does not pose a danger to participants if used correctly.						
14.11 There are adequate indoor facilities for the needs of the members.						
14.12 There are adequate outdoor facilities for the needs of the members.						
14.13 The coaches/ trainers at the facility are adequately trained and knowledgeable.						

14.14 The exercise programmes that I want to participate in are scheduled at times suitable to me.						
14.15 I would like to have access to a nutritional expert.						
14.16 The lighting at the facility (indoors and outdoors) is adequate.						
14.17 The lighting of the roads surrounding the facility is adequate.						

**THANK YOU FOR YOUR TIME**

## Appendix 7: Sample of a transcript

### INTERVIEWS (PS1)

#### TRANSCRIPT

#### TRANSCRIBED BY LUNGA SHABANGU

**INTERVIEWER:** Thank you very much. Minake njengoba besengikuchazele (as I have explained), I'm Dr Musa Gumede to be formal. I'm the one who is doing this research ngizocela that you give me who you are first and then we'll start.

**INTERVIEWEE:** Ngiyakubingelela, ngiyabonga ngethuba, ngiwuPhiwe wakwaSokhela, ngisuka Kwa Mashu. (I greet you, thank you for the opportunity, I am Phiwe and Sokhela, I come from Kwa Mashu). I'm a qualified PT and a group exercise instructor, a PT is Personal Trainer and a group exercising instructor. Ngafunda ePhysical IQ Institution, okay umsebenzi wami engiwenzayo ngidealer noHealth namaWellness. (I studied at Physical IQ Institution, okay my work that I do deals with Health and Wellness). Ngisiza abantu ekutheni bareache amagoals abo ngezindlela ezihlukile, because uma siza ejimini, siza ngezingqondo ezingafani. (I help people reach their goals in different ways, because when it comes to gym, we come with different mentslities). Khona abafisa ukulooser, khona abeze ngestress, khona abeze ngamagoals athize ukuthi mhlampe they willing to achieve izinto. (There are those that want to lose weight, some come to relieve stress, some come with other goals maybe they willing to achieve things). So igroup exercise ingena laphe ekuthenini, ngiyakwazi ukudealer nabantu abahlukile ngesikhathi esisodwa. (So that's where group exercise comes in, I can deal with different people at the same time). Ipersonal training idealer nokuthi, niqondana neClient per session, yes. (Personal training deals with going face to face with the client per session, yes). So umehluko uba laphe, yes. (So, the difference is there, yes).



**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes, umsebenzi wami, ngiyasebenzela eVirgin Active, yangiqasha inkampani yaseVirgin Active, ngisebenza neUKZN yonke, ngico-ordinator amaAerobics akhona, but mostly ngibased eWestville campus. (Yes, it's my work, I work for Virgin Active, the Virgin Active company employed me, I work with the whole of UKZN, I coordinate their Aerobics, but mostly I am based at Westville campus). Ngisebenze eAlbert Luthuli DOH, Department of Health, sorry under istaff club, imina orunner iStaff Club sakhona. (I worked at Albert Luthuli, DOH Department of Health, sorry under the staff club, I run their Staff Club).

**INTERVIEWER:** Ngiyabonga, so uma uthi (thank you, so if you say) you are a qualified trainer, what did you do?

**INTERVIEWEE:** i-Institution yethu iyasifundisa about physical and science ngama terms of health. (Our institution taught us about physical and science in terms of health). So sahamba sayoattender icourse yiwunyaka... (So, we went to attend the course and it was a year).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes, it was close to 15 to 16 thousand.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yiwunyaka wonke siyawa attender sifunde izinto, sifunde ianatomy sifunde ngakho konke okwe human body. (It's the whole year, we attend and learn things, we learn about the anatomy and we learn everything about the human body).

**INTERVIEWER:** Okay, what institution is this?

**INTERVIEWEE:** Physical IQ.

**INTERVIEWER:** Physical IQ?

**INTERVIEWEE:** Physical IQ Institution, yes.

**INTERVIEWER:** Okay, ngiyabonga (thank you).

**INTERVIEWEE:** Ibibased eMorningside isisukile, iseseBerea manje. (It was based in Morningside and it has moved, it's at Berea now).

**INTERVIEWER:** Okay and how old are you?

**INTERVIEWEE:** Um, I'm 30 years old.

**INTERVIEWER:** 30?

**INTERVIEWEE:** Yes.

**INTERVIEWER:** Thanks, unfortunately khona indawo yama (there's a part for) demographics that I need tell ukuthi ngikhulume nabantu abangakanani? Abayiphi iage group? Amamales or females? (That I spoke to how many people? From which age group? Was it males or females?) Yonke leyonto, (All of that) so that's why I needed to... Okay how many participants, okay how are participants recruited, chosen or identified? Wherever la osebenza khona. (Wherever you work).

**INTERVIEWEE:** Uma ngingathatha umubuzo wakho ngiwubuyisele eloxion because siyakwazi nokusebenzela emaloxion. (If I could take your question and direct it to the location (townships) because we are able to work at the locations (townships). Emaloxion kuoutdoor, mostly uma sisebenza emaloxion we do not charge abantu. (At the locations (townships) it is outdoor, mostly when we work at the locations (townships) we do not charge people).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Ngoba sisuke siconcerned ngehealth yabo nangesafety because we believe ekutheni if siwathatha amaactivity siwafaka eloxion kubantu, azokwazi ukuthi avikele umphakathi and mostly iyouth izokwazi ukuthi iqoqeke. (Because we are concerned about their health and safety because we believe that if we take the activities and we put them to the people in the locations (townships), they will be able to protect the community and mostly the youth will be organised). So, emaloxion we do it for free of charge, kulula ukubona umuntu eza kuwena afike akutshela igoal yakhe and then umthathe

umhlanganise nalona onegoal ehlukile bangene kwienvironment eyodwa. (So, at the townships we do it for free of charge, it's easier to see a person come and tell you their goal and then you take them and join with the one who has a different goal and let them enter into one environment). Wena umqondo wakho kumele usabalale nokusebenza nalobobantu ngoba kungafika abantu abawu 5 or 6 abanamavision ahlukile, but wena as a qualified trainer fanele ukwazi ukuthi amaexercise noma iprogramme ozoyiphasisela labobantu, iengage kubobonke kungabi khona ozoba left behind. (Your mind must be open enough to work with those people because 5 or 6 people may arrive with different visions, but you as qualified trainer must be able to exercise or the programme you're going to give those people, must engage all of them and no one must be left behind).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes, ngesikhathi esisodwa, uma ngikhuluma ngoVirgin Active, angibe based nje eAlbert, ngoba imina oke aye eAlbert. eAlbert ngidealer neStaff. (Yes, at the same time, if I'm talking about Virgin Active, let me be based at Albert because I am the one who goes to Albert. At Albert I deal with the staff).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** I was appointed eAlbert ukuthi ngizoruuner iclub yakhona ngesizathu sokuthi uHealth kumele uleade by example yokuthi (at Albert to run their club on the reason that Health has to lead by example). Those that need to train, need to be healthy, need to be active ngasosonke isikhathi ukuze amapatient abo azokwazi ukukholelwa ukuthi yonke lento ipositive iyakwazi ukwenzeka (at all times so that their patients can believe that all of this is positive and it can happen). So that is why I am there, ngenza ama wellness khona ngidealer nanestaff (I do Wellness there and I deal with the staff). Istaff, siyafika istaff club siregister sibuzane yonke information yomuntu engisuke ngidinga ukuyazi kubo. (The staff, the staff club arrives and registers).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** And then ngimuthathe ngimufake ngaphakathi eclubini (I take them and put them inside the club).

**INTERVIEWER:** Okay. So bonke bazizela bona? (So, they all come on their own?) It's not like icondition yomusebenzi (a condition at work) or something like that?

**INTERVIEWEE:** Yes, bayazizela bona (they all come on their own).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** But uma kwenzakalile umuntu akuapproache yena, ngingasho ngithi isocial media yasisiza because we post izinto zethu. (But if it happens that a person approached you, I can say that social media helped us because we can post our things). We post ama companies ethu abantu bayakwazi ukuthi basilandelele kuwona. (We post our companies and people are able to follow us on them). Njengoba nje ngicabanga ukuthi uBaba uMkhize lo obu uxhumane. (As I am thinking that Mr. Mkhize, the one you were in contact with).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Bangithole kwiSocial Media bangi inviter KwaNyuswa. (They found me on Social Media and they invited me to KwaNyuswa).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** KwaNyuswa ngithe uma ngifika ngabona indawo enhle edevelopwayo enomphakathi oactive. (When I arrived at KwaNyuswa I saw a beautiful place that is being development). It's just that akekho umuntu obezoba imentor phambi kwabo. (It's just that there was no other person who was going to be a mentor for them). So, I commit myself every Saturday ukuthi ngidrive from KwaMashu to kwaNyuswa (to drive from KwaMashu to KwaNyuswa). It's close to 30KM's.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ngihambe ngiyoba nabo for an hour noma 2 hours, idedication yami engisuke ngiyenza ukuthi ke ngikwazi ukuphakamisa ienvironment yakhona. (I go and I be with them for an hour or two hours, that's my dedication that I do to be able to uplift their environment).

**INTERVIEWER:** Thanks, and what are the reasons given by the members when they join the club?

**INTERVIEWEE:** Umuntu uzokutshela efika ukuthi ngifisa ukulooser iweight. (A person will tell you as they arrive that they want to lose weight).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Umuntu uzokutshela ukuthi unegoal yokuthi ufisa ukumaintainer umzimba, umuntu uzokutshela ukuthi nginezinkinga zokuthi khona isimo sempilo asikho right, uDokotela ungiadvisile ukuthi angize ejimini, kodwa wase ethi angilandele amasteps amabili amathathu because ziningi izinto ezingenza abantu ukuthi beze ejimini. (A person will tell you that they have a goal that they wish to maintain their body, a person will tell you that they have problems that something is going all right in their health, the doctor advised them to come to the gym, but he also said that there are steps that there are one or two steps that I should follow because there are a lot of things that could make people come to the gym).

**INTERVIEWER:** Okay and how often do you exercise or the groups exercise? And what do you perceive as benefits of exercising?

**INTERVIEWEE:** Ngokomthetho, ngokwescience, kufunakala umuntu, khona amaaerobics, kube khona istrength. (According to the law, according to science, a person is needed, there are aerobics and there is strength). Istrength namaareobics akufani because amaaerobics we deal with icardiovascular, mostly high impact. (Strength and aerobics are not the same because in aerobics we deal with cardiovascular, mostly high impact). Then istrength kungayi body weight noma usebenzisa amaweights. (Then strength can be body weight or you use weights). Asiiinvolve kakhulu iheart rate, so kuhlukile,

kuma aerobics, ungawenza kathathu ngesonto because adealer nokulooser iweight aburner ifat. (It doesn't involve the heart rate a lot, so it's different, in aerobics, you can do them 3 times a week because they deal with losing weight, and they burn fat). Istrength ungasenza kabili noma ikathathu ngesonto, but uyakudinga ukuthi uma ujima ube nerecovery. (You can do strength twice or three times a week, but if you work out, you do need recovery).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** Uma uthi kabili or kathathu is there a difference yokuthi how many hours iepisode yokutrain? (If you say 2 times or 3 times is there a difference in how many hours each training episode is?).

**INTERVIEWEE:** Yes, kubalulekile futhi nalokho ngiyabonga. Ekujimeni kahle kahle kufanele ube nehpur noma no30 minutes uma uthole iprogramme eright. (Yes, that is also important, thank you). You don't do more, you don't do less because you need to warm up for 10 minutes. You need to have a full session kwiprogramme yakho osuke unayo, (in the programme that you have) close to an hour and then you cool down for another 10 minutes because kubalulekile ukuthi uwarm up (it's important that you warm up). Igazi likwazi ukucirculator phambi kwenhliziyo lingene kuyo yonke indawo. (So, the blood can be able to circulate in front of the heart and enter everywhere).

**INTERVIEWER:** So, you are saying 30 minutes warm up?

**INTERVIEWEE:** I'm saying 10 minutes warm up, 1-hour session, 10 minutes cool down.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes, that's close to 1 hour and 30 minutes.

**INTERVIEWER:** Okay, 20 minutes cool down?

**INTERVIEWEE:** 10 minutes.

**INTERVIEWER:** Hayi lo 30 minutes wakho awuhlangani. (No, this 30 minutes of yours is not adding up).

**INTERVIEWEE:** So, it's 1 hour 20.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yingakho ngithi it's close to 1 hour 30 minutes because kungenzeka athi omunye, "No, ngizowarmer ngeTreadmill" mhlampe ashaye u15. (That's why I'm saying it's close to 1 hour 30 minutes because another person may say, "No, I'll use the treadmill to warn up" maybe they do 15 minutes).

**INTERVIEWER:** Okay and what are the benefits you said are for exercising?

**INTERVIEWEE:** Amabenefits okuexerciser ayasisiza in terms of iheart rate yethu, ayasisiza in terms of izifo esisuke sinazo ngaphakathi. (The benefits of exercising help in terms of our heart rate, they help us in terms of diseases that we may have inside us). Kunezifo abantu abasuke bengazazi because kunabantu abangawenzi amacheck ups regular. (There are diseases that people do not know because there are people who do not do regular check-ups). So kuyakusiza ukuthi uhambe uyoexerciser because uyawuzwa umzimba ushintsha wona, uzishinthsela wona ngaphakathi. (So, going to exercise does help because you can feel the body changing itself, it changes itself from the inside). Ungafika kumina ungazi ukuthi unesfio esithize nawe ungasazi, but the fact ukuthi usejimini. (You can come to me without knowing that you have a particular disease that you also don't know, but the fact that you're at the gym). Istress number 1 siyehla ngokuba khona kwakho ejimini. (Number 1, the stress decreases just by you being at the gym).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Igoal yakho uyayireacher ngesizathu sokuthi isitress uma sehla, imotto yakho isiyodwa. (You reach your goal based on the reason that once your stress decreases, you then have one motto). Usubhekene nefitness nehealth yakho and then you reach. (You're now facing your health and your

fitness and then you reach). So ngalesoskhathi kunabantu abadiabetes... (At that moment there are people who are diabetes).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Kunabantu abanazo zonke izifo ezikhona ezisemuhlabeni, uthole ukuthi ezinye azisalapheki, but the fact ukuthi ukhone uyaexerciser. (There are people with all sorts of diseases there is in the world, you find that others are incurable, but the fact that you're able to, you exercise). Ziyakhona ukuthi zidumbe, amasosha omzimba azi ukuthi aqine. (They are able to decrease, and your immune system is then strengthened).

**INTERVIEWER:** Okay are any health check-ups provided to health participants and how often?

**INTERVIEWEE:** Pardon?

**INTERVIEWER:** Are health check-ups provided to participants?

**INTERVIEWEE:** Yes, we go kwiinduction... (...to induction).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** And how often?

**INTERVIEWEE:** Sikwenza njalo uma uzojoiner, imemeber nje ngisho ingafika yodwa ngisho angafika emaningi, siyadealer neindividual, sithole yonkinto ngayo, ngoba kubalulekile. (We do it all the time if you're going to join, even if a member arrives alone or even if a lot of members arrive). Awukwazi ukuthatha umuntu umufake ngaphakathi estudio umjimize ungasazi isimo sempilo yakhe. (You can't take someone and put them inside the studio and train them without knowing their health state).

**INTERVIEWER:** Okay, niyenza kanjani? (...how do you do it?).

**INTERVIEWEE:** Sinemshini esibuye siyisebenzise noma sihlale nomuntu nje njengoba sinawe siprivate sikhulume ukuthi, ungazise ngempilo yakho ukuthi



kusukela manje uze ube mngaka ihamba kanjani. (We have machines that we use or we sit down with the person as we are in private and we talk, you let me know about how your life is going from then up until now on). Njengoba sekuneCOVID nje sifake amamask, kunabantu abaneshortness of breathing abaasthmatic. (As there is COVID we wear masks, there are people with shortness of breathing, who're asthmatic). Loyo muntu awukwazi uvele umthathe uthi "akajime nemask". (You can't just take that person and say they must work out wearing a mask). You need to follow yonke imithetho, imithetho uzoyithola ngokuthi umubuze umuntu ukuthi isimo sakho sempilo sinjani? (... all the rules, you will find the rules by asking that person "how your state of health is"?).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ngoba ngeke afane nami, so lokho sikwenza privately, sikhulume nomuntu, umuntu akuvezele impilo yakhe yonke. (Because they won't be the same as me, so we do that privately, we talk with the person, and the person shows you everything about their life). Then thina izinto esinazo zokumkala ibody yakhe, istructure sakhe, ibody fat, nobody mass, nobody weight kuphela. Sike silindele kumuntu ukuthi asazise ukuthi, 'mina nginenkinga'. (Then we have things that will weigh their body, their structure, the body fat and their body mass and their body weight only). Maybe umuntu unenkinga kwilower back which means lowo muntu ngeke akwazi ukwenza most yamaexercise ahigh impact like iJump Squat because loyomuntu loyo akekho safe ukuthi angagxhuma ngelower back yakhe, icore ye spine. (Maybe a person has a problem with their lower back, which means that person cannot do most hight impact exercises like Jump Squat because that person is not safe to jump with their lower back, the core of the spine).

**INTERVIEWER:** Okay, so you use these check-ups to ukwenza (do) a specialised type of programme?

**INTERVIEWEE:** Programme for loyomuntu, (that person,) yes because amaprogramme abantu azohluka (people's programmes will be different).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** What exercise programmes are offered by your club or group?

**INTERVIEWEE:** Okay, mina kudepender kwamaClient ethu, (it depends on our clients) let's say ngidealer nawe dokotela... (I'm dealing with you doctor...).

**INTERVIEWER:** Yebo. (Yes).

**INTERVIEWEE:** Uze kumina uthi you want to lose weight, umuntu odinga ukulooser iweight kufanele ngimunikeze kuqala amaexercise azodealer neheart rate. (You come to me and say you want to lose weight, I must first give a person who wants to lose weight exercises that will deal with the heart rate). So, you can sweat and burn fat before we tone it up. So amaexercise alapho, (so, exercise that are there is) it's running, it's mostly amajump squats, (Jump Squats) it's mostly cardio. Angike ngiyibeke kanjalo nje ngegama elifull, (Let me just put it like that, in its full term,) its cardio exercises.

**INTERVIEWER:** Yes, okay so nakhona (at that) your programmes will be depending on the goal?

**INTERVIEWEE:** Depending on igoal yomuntu because kungaqhamuka umuntu othi ufuna ukubulker. (...a person's goal because a person who wants to bulk may arrive). Istate sakhe somzimba wakhe akafune ukwehla, ufuna ukubulker. (They don't want to decrease their body state, they want to bulk). Loyomuntu angikwazi ukumthatha ngimufake kwicardio kufanele ngimufake kwistrength. (I can't take that person and put them in cardio I have to put them in strength). So, whether you're using weight or not kufanele ngimufake kwistrength (I have to put him on strength).

**INTERVIEWER:** Okay and what resources or equipment would you like the programme to have?

**INTERVIEWEE:** Kubalulekile ukuthi igym uma unayo, abe khona amatreadmills, zibekhona zonke izinto zecardio, zibekhona zonke izinto zamaweight, zibekhona zonke izinto ozisebenzisa estudio. (It's important that

if you have a gym, treadmills should be there, all the cardio equipment, all the weights, all the things that you will use at the studio must be there). So if facility kubalulekile ukuthi ube nayo njengoba sibuye sibuke oVirgin Active, oPlanet Fitness badesignwe kanjani ngaphakathi, it's because they cater for everyone. (So, it's important to have a facility as we also look at Virgin Active, Planet Fitness, how they are designed on the inside). Akekho umuntu abamu excluder ngaphandle, noma ubani ozothatha imembership yakhona uzongena. (There is no one who is excluded, no matter who takes their membership will enter). Yonkinto ayidingayo isuke ikhona ngaphakathi (everything they need is inside) because we have different visions.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** So, kubalulekile nawe ukuthi uma uzodealer nomuntu akengithathe njengaseAlbert, imshini ikhona yonke, abantu abadinga ukuyisebenzisa, but uma siphuma ngaphandle emaloxion (So it's important for you if you're going to deal with a person, let me just take Albert, all the machines are there that people need to use, but if we go out to the townships) because it's more outdoor. Asinawo amaequipment, kufanele ingqondo yakho ibe open minded because uma usuke ujimisa akufuze ukuthi ingqondo ivaleleke ukuthi wena ujimisa kwienvironment ephezulu njengo Virgin Active. (We don't have equoiment your mind has to be open minded because when you are training, your mind must not be limited in that you can only train people in high places like Virgin Active). Kufanele ukwazi ukusebenza nabantu abangaphandle abangenayo iequipment. (You have to be able to work with people from the outside, who don't have the equipment). So lapho uyacompromiser ngokuthi uwenze wonke amaexercise noma iprogramme ojwayele ukuyenzisa emsebenzini without amaweights ngesikhathi wenzisa abantu emaloxion. (So, there you have to compromise in that you do all the exercises or a programme that you're used to doing at work without weights at the time you're training people in the townships). So, bangeke bafeele ukuthi bona badinga ukuya emadrobheni noma ayojoiner uVirgin Active because khona izinto othisha abangasenzisi zona emaloxion. (So, that they don't feel like they need to go to

town or join Virgin Active because there are things that the teachers don't do with them in the townships).

**INTERVIEWER:** Yes, so how do you improvise?

**INTERVIEWEE:** Ngicela ungiHighlightele umbuzo. (Please highlight the question for me).

**INTERVIEWER:** Improvise, let's say you are saying, "emaloxion like iweight"... ("Like weight").

**INTERVIEWEE:** Oh sorry...

**INTERVIEWER:** So how do you improvise? Ukuthi ureplace izinto ezingekho ozidingayo...? (To replace things that aren't there that you need?).

**INTERVIEWEE:** Yes, khona leligama ekade ngilukhe ngilisho, (There's this word I have been saying,) there's amaweights, (weights) there's ibody (body) weight.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Uma engabe ngingakunikeza iexercise njengamanje, (If I were to give you an exercise right now,) let's say you want to build your chest...

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Mostly igoal yabantu besilisa leyo, abantu besilisa bonke bafuna ukuhamba kanje, bafuna ukuba nezifuba. (That is mostly male's goal, all males want to walk like this, and they want to have chests). Emaclubbini kunamabenefits kunamaBench press, kunemshini esiyisebenzisayo, emakhaya ngingakunikeza amapush-ups, ngingakunikeza amaplanks, ngingakunikeza amatricep exercises.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Those benefit iupper body yakho, awukho eclubini... (Your upper body, you're not at the club...).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Mina into ongiphathela yona, ithawula lakho for you to be safe uhlale phansi kulona liprotecta amadolo akho because ipush-up inemodify, yenziwa umuntu wesilisa yenziwe umuntu wesimame, but depending on istrength seweight yakho ukuthi uzokwazi yini ukusibamba, uyabona? (What you bring for me is your towel for you to be safe, you sit down on it and it protects your knees because push-ups have can be modified, males and females do it, but depending on your weight's strengths weight, if you can carry it, you see?).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** So, lingangena lapho ithawula umuntu wesimame uyamodify ngokubeka amadolo phansi because sitargeta iupper body, ilower body ayina impact. (So, a towel comes in there, a female modifies by putting her knees on the floor because we're targeting the upper body, the lower body has no impact). Enze kahle yona, ilower body, neupper body yakhe. (They do their upper and lower body properly). Umuntu wesilisa proper push up, so ipush up elenziwa umuntu wesilisa nomuntu wase Virgin Active bangafana. (A male does proper push-ups, so a push up from a male and someone from Virgin Active can be the same). If nalo ngizomuaddela amaset namareps alento asuke eyenza, ize ibe neimpact because nase jimini uma usuke ujima you don't just train for 2 minutes... (I'll also add sets, reps, of what they are doing, until it has an impact because even at gym your training, you don't just train for 2 minutes...).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Uba namaset namareps osuke uwenza... (You have sets and reps of what you're doing).

**INTERVIEWER:** Okay, and then what do you use any exercise or manual or guide to perform the exercise programmes? And then if none please outline the programme structure.

**INTERVIEWEE:** Imanual siba nayo, ibalulekile ukuthi imanual ibekhona uma uzojimisela abantu... (We have a manual, it's important for the manual to be there if you're going to train people...).

**INTERVIEWER:** Okay...

**INTERVIEWEE:** Ngoba ngeke ukwazi, fanele ngiziprepaye, (Because you can't just, I have to prepare,) I need to prepare my mind, I need to prepare iclient yami le engisuke ngizoyijimisa (for my client that I will be training). Angikwazi ukuvele ngiye kumuntu ngingekho sure ukuthi ngizomenzisani. (I can't just go to a person without being sure what I'm going to make them do). So iguideline yami ihambiselana nokuthi igal yakho ithini, yiziphi izinto esuke ezindinga, yikuphi akwenzayo, yikuphi angakwazi ukukwenza? (So, my guideline goes together with your goal is, which things do you need, what can they do, what can't they do?).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** Lemanual lena, (this manual,) is it you preparing it or is it a manual that's generic across the industry?

**INTERVIEWEE:** Singafunda sonke... (We can all learn...).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** But uma sekukhulunywa ngamaskills usuke ususebenzisa amaskills akho uma usubuyela eceleni. (But when you're talking about skills, you're then using your own skills when you're doing it individually). Lento, esisuke sifundisiwe yona iyasi guider ekutheni ihuman body siyicontrole kanjani, but uma sengingedwa kufanele ngiziprepaye mina imanual based on iclient yami. (What we're taught guides us in knowing how to control the human body, but when I'm alone I need to prepare the manual based on my client).

**INTERVIEWER:** Okay and what qualifications do trainers possess? And if none what would you like them to be trained on?

**INTERVIEWEE:** Ngingafisa ukuthi, yilento esengicishe ngayenza singakosayini... (I wish that, oh that's something I almost did before signing). Ngingafisa kule environment esikuyona khona iphutha eselenzakala kakhulu. (I wish that in this environment that we are in, there is a big mistake that has just happened). Wonke umuntu usevele avuke ahlanganise abantu uma esezibona sengathi engakwazi ukujimisa. (Anybody just wakes up and gets people together when they feel or see like they can now train people). Sengizihambile izindawo ngibuka, ngilomuntu ongakhulumi, ngiyaobserve. (I have been to places watching, I am the type of person who doesn't speak, I observe). Sengizibuza umbuzo owodwa ukuthi ngisiwaistile yini mina isikhathi sami ukuthi ngihambe ngiyofunda because ukufunda kwami kungisiza ekuthenini ngiyazi impilo yomuntu ibaluleke kangakanani, kungisize lapho. (I ask myself if I have wasted my time to go and study because my studying helps in knowing how important a human life is, that's where it helped me). Angikwazi ukuthi sengingavuka kusasa sengingatraina ngingafundisiswe ukuthi ihuman body izigenerator kanjani. (I can't wake up the next morning and train people without studying how the human body generates itself). Kubalulekile ukuthi sihambe siyofunda, uma sesiphumile sesifundile sithole amaguidelines kubantu abangaphambili. (It's important that we go and study, when we're done with school we must get guidelines from those people who are well experienced). Lokho kuzosisiza ukuthi ngikwazi ukudealer namaclient noma nomuntu noma loyomphakathi osuke ukhona ngalesosikhathi. (That will help you in with knowing how to deal with clients or with that community that you're with at that time).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** So, if they are not trained, what would you like them to be trained on?

**INTERVIEWEE:** Number 1, kufanele sitraîneke ekutheni sikwazi ukuba disciplined, siwuthathe serious umsebenzi wethu. (Number 1, we must be trained in such a way that we are disciplined, in that we take our work seriously).

Njengamanje nami ngizozifaka, noma kuyinto engingayenzi ngiyazifaka because umsebenzi osithinta sonke and isaffecta sonke njengamanje. (As it is right I am also going to include myself, although it's something I don't do because it's work that touches all of us and it affects us all right now). People have turned igym to ibusiness. (People have turned gym into business). Uma ngingakuthathela umzekelo ngizonithathela uVirgin Active.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** uVirgin Active is owned by somebody ongafiki njalo eVirgin Active, akazazi izimember ukuthi obani, abakabani? (Virgin Active is owned by somebody who dosent always goto Virgin Active, they don't know who the members are, who are they from?) Into ayenzile udevelope istructure wafaka imishini ebese wanikeza thina ukuthi sirunne... (What they did is to develop the structure and inserted machines and then gave it to us to run it...) akazazi izimemeber ukuthi obani abakwabani, into ayenzile udevelope istructure wafaka imishine wenza yonkinto ebese wanikeza thina ukuthi sirunne. (They don't know the members who they are and who are they from and then gave it to us to run). So, we form a relationship nezimember (with the members). Loya muntu uthembe thina ophezulu ukuthi we are qualified ngalendlela yokuthi we are disciplined emqondweni. (That person at the top trusts us in such a way that we are disciplined in our minds). Yokuthi iclient, you don't show iqualification yakho, but you show ukuthi kubaluleke kangakanani ukuthi umeetane neclient. (That the client, you don't show your qualification to the client, but you show how important it is to meet with the client). So idicipline ibalulekile whether uyatrainer noma you want to become a trainer. (So, discipline is important whether you're training or you want to become a trainer). Ibalulekile idicipline because iqualification yakho ayisho lutho. (Discipline is important because your qualification means nothing). You can go and study eInstitution, (at an institution,) but uma uflat ngeke ukwazi ukuphumelela kule (if you're flat you won't survive in this) industry. So that is why they turned it into business sebenza imali eceleni, kanti fuze engabe balungisa abantu kufanele basize abantu... (They are making money on the side whereas they should be helping people...).



**INTERVIEWER:** Okay.

**INTERVIEWEE:** Because uma siyibuka iyakhula lento yokujima, amactivities agcwele yonke indawo emaloxion even umasipala ngiyawubona ukuthi uyayingenelela it's because uyabona ukuthi abantu bazinikele. (Because if we look at it, this training thing, activities are full everywhere in the townships even the municipality I can see that they are also jumping in, it's because they can see that people are dedicated).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** So siyadinga nathi ukuthi sibameete half way abantu sibakhombise ukuthi siphumaphi, yini esiyiphethe esandleni esizoyinikeza bona. (So, we also need to meet people half way and show them where we come from, what we have with us in our hands that we're going to give them).

**INTERVIEWER:** So, discipline you can't turn it into a money-making scheme, that's it.

**INTERVIEWEE:** Yilokho nje. (That's it).

**INTERVIEWER:** Training skills, how do they...?

**INTERVIEWEE:** Amatrainig skills? (Training skills?).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Okay siyabanawo amaworkshops, njengami nje inkampani yami iPHF... (We also have workshops, like me, my company PHF...) iyaba namaworkshops (it also has workshops).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Amaworkshops ami, but mina ngidealer nabantu asebequalified. (My workshops, but I deal with people who are qualified).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Abafisa ukukhula kangcono, angideali nomuntu because anginayo ilicence youphasisa abantu to become trainers. (Those who wish to

grow better, I don't deal with a person because I don't have the licence to pass them into becoming trainers). Ngiauthoriziwe ukuthi ngikwazi ukusiza abantu abafisa ukuthi do more, do better emsebenzini abawenzayo. (I am authorised to be able to help people who wish to do more, do better at the work they do). So amaskills ami enginawo ngiyakwazi ukuthi ngiwehlisele kubantu. (So the skills that I have, I am able to transfer them down to people). Siyaba nawo amaworkshops, mostly ngama Saturdays. (We do have workshops, mostly on Saturdays).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Amaworkshops ethu asuke edealer nakho ukuthi amaaerobics enziwa ngalendlela. (Our workshops deal with that, how aerobics are done in the right way).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ukutrainer umuntu uma eyedwa, (Training one person) this is how you need to go...

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Uma bebaningi, naka amarules ekufanele uwalandele... (If there is a group of them, here are the rules that you must follow...).

**INTERVIEWER:** Okay, what kind of support would you like to receive from government, from business's or NGO's? And are you receiving any currently?

**INTERVIEWEE:** Njengamanje angikakobi naso, angikakabi nalo uxhaso, angikakabi nalo. (At the moment I don't have any, I don't have any sponsors, I don't have any). iVision yami dokotela ukubona iyouth iyalimala... (My vision doctor is to see; the youth is getting hurt...).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ngasekhaya, ngingabeka ngami, mhlampe sibabili abafana ngasekhaya engingathi ingqondo yabo iyazama ukuthi ibe kwichannel eright. (I'd make an example using me, by where I stay, maybe there is only two of us

boys whom I can say have well-functioning minds). Sinikeziwe ithuba singabantu ukuthi asiphume siyofunda, nanoma iyiphi indlela, whether amaskills noma ufuna ukuyongena emavarsity unikeziwe ithuba, but sihleli. (We have been given an opportunity as people to go study whichever way, whether its skills or you want to go enter University, you're given an opportunity, but we're sitting). Asifune ukwenza lutho, kodwa sifisa ukukhula ngalendlela oyibonayo, eyanzakalayo kumaenvironment. (We don't want to do anything, but we want to grow in that way that you see, that's currently happening in this environment).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Isifiso sami, ukubona iyouth ikakhulukazi ishintsha ikwazi ukufeza amaphupho ayo, not ngokuthi iye esikoleni kuphela. (My wish is that, seeing the youth changing, especially being able to reach and make their dreams come true by going to school). Leindustry esikuyona thina yokujimisa akuyona into umuntu ayeyifundela esikoleni, but ichannel eshintshile endleleni. (This training industry that we're in, it's not something one use to go to school for, but the channel has changed along the way). Sashintsha idirection ngoba usubona ukuthi shuthi mina ngibased kwisports. (We changed direction when you started seeing that, 'I'm based in sports'). So, ngingafisa ukuthi sithole uxhaso lokuthi ngikwazi ukusebenzisana nabantu. (So, I wish that we can get funding so I can be able to work with people). Ngishintshe izimpilo zabantu, emaloxion kakhulukazi. (I have changed people's lives especially in the townships). Ngibe based kwabantu, abantu sibakhuthaze ngokujima, sibakhuthaze ngokwemvelaphi yabo, sibakhuthaza ngokuthi kubaluleke kangankanani, ukuthi umuntu aexerciser. (And be based with the people, and motivate people to work out, and motivate them on their upbringing, motivate them on how important it is for a person to exercise). Iwona amaworkshops, namawellness engike ngiwenze uma kukhona... (I normally do workshops and wellness if it's there...) ngiyacabanga ukuthi ngabe usakhona eAlbert, ubuke ubone uma kwenziwa amacancer awareness... (I'm thinking if you're still at Albert, you have seen when they do Cancer Awareness...).

**INTERVIEWER:** Yes...

**INTERVIEWEE:** Benginikezwa lapho, mhlampe 5 to 10 minutes ukuthi ngazise abantu ukuthi ukujima kwakho kubaluleke kangakanani, kukusiza kephi?

**INTERVIEWER:** Okay.

**INTERVIEWEE:** So, yes isponsor anginaso njengamanje ngisaziqwandela nje, but ngiyafisa, ukusuka kwami la ngiye kwaNyuswa. (So yes, I don't have a sponsor for now I am still doing it individually, but I wish to move from where I am to KwaNyuswa). Kuyangisiza mina ngoba ngiyakhuthazeka enhlizweni yami ukubona abantu bekhula. (It helps me because I am motivated in my heart to see people grow).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ngiyafisa futhi ukuthi kusasa uma kungathiwa kukhona into eqhamukayo, angeke ngisho ukuthi ngiyithole ngendlela engekho right. (I also wish that if there were something to come up tomorrow, I won't say that I got it in the wrong way). Ngiyafisa ukuthi ngiyithole into ngendlela eright ngoba ngibabona abantu bekhula phambi kwami. (I wish that I can get something the right way because I'm seeing people grow in front of me). Ngibabonile abantu bekhula phambi kwami, ngibonile isandla sami sisebenza ebantwini. (I have seen people grow in front of me, I have seen my hand working in people).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Selokhe ngabakhona dokotela akekho umuntu osekewaba neinjury uma ngimujimisa, futhi angiboni ukuthi uyoke abekhona... (Ever since I started doctor, nobody has ever been injured when I'm training them and I don't see that happening anytime soon...).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ngoba ngiyakuqhaphela lokho...

**INTERVIEWER:** Okay...

**INTERVIEWEE:** Ngiyakuqhaphela, mostly amajoints, amajoints abalulekile uma usuke ujima, ngisho kungathiwa wenza noma iyiphi iexercise abalulekile kakhulu, neenvironment osuke ukuyona ibaluleke kakhulu. (I am aware of that, mostly the joints, joints are very important when you're working out, no matter what exercise you're doing they are very important, and also the environment is also very much important). Angikwazi ukuthatha abantu ngibafake kwindawo euneven... (I can't take people and put them in an uneven place...).

**INTERVIEWER:** Yes...

**INTERVIEWEE:** Then ngithi ngilinde ukuthi baxghume... (Then expect them to jump...).

**INTERVIEWER:** Yes...

**INTERVIEWEE:** Angithi uyabona lapho sengiyabalimaza amaqakala? Bayalimala kudaleka amadislocation. (You see there I'm now straining their ankles? They get hurt and problems are cause, there are dislocations).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Inkiinga yeinjury umzimba uma ushisa, ayiveli ngalesosikhathi, uyazi? (The problem with an injury is that, when you're still warm the injury doesn't show at that time, you know that right?).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ingavela usuzidlalela ibhola, uzitshele ukuthi ulimala ebholeni kanti walimala kumina... (It may show up when you're playing soccer and then you tell yourself that you got hurt there, whereas you got hurt training with me...).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** So selokhe ngabakhona ngina 4 years dokotela, anginaye umuntu oseke walimala kumina... (So ever since I have been there, I have four years Doctor and noone has ever been injured with me...).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** And members do believe in me, because ngike ngenze sure ukuthi yonkinto abayifisayo bayayithola (I make sure that everthing they wish for, they get). Ngikhethe ukwehlisa imali ngamukele isifiso somuntu ngisifeze kunokuthi nginyuse imali. (I chose to decrease the price and accept their wishes and I make them a reality rather than increasing the price).

**INTERVIEWER:** Okay... so those are the support osho ukuthi ngenye indlela (in another way) you would like to have... it's a programme that is channelled at youth?

**INTERVIEWEE:** Channelled at the youth yes, yingakho ngangena nasema varsity, ngangenela lokho ngaqala eWestville ngoba ngangeniswa ukuthi Ngiyayibona ienvironment ukuthi iyashintsha ngaphakathi (that's why I also entered at the varsities, I entered for that, I started at Westville because I could see the environment is changing on the inside). Sekungene, angazi noma ngizosho kahle yini, sekungene lezinto zamapolitics ngaphakathi. (They have entered, I don't know if I'd be saying it correctly, these political things have started on the inside). Usuthola amaSRC aserunnwa yile organisation ethile, political party ethize... (You find the SRC running that organisation, some particular political party).

**INTERVIEWER:** Yes...

**INTERVIEWEE:** Izinto zonke ebezingafuneki lezo... (Those are things that weren't needed...).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** But zikhona manje asikwazi ukuzivimba (they are there now, we can't stop them)...

**INTERVIEWER:** Yes.

**INTERVIEWEE:** But the only way asifake amaactivities ngaphakathi (let's put activities on the inside).

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Ingane uma ingafundi, iyazi ukuthi isebholeni, iyazi ukuthi ikukarate, iyazi ukuthi ikuma aerobics. (If the kid isn't going to school, they know that they're at soccer, they know that they're at karate, they know that they're at aerobics). Ama aerobics thina asisiza ngokuthi, akucombiner konke okwisports... (Aerobics help us with the fact that they combine all that is in sports).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Akucombiner konke because umuntu ojima ibhola, uyawadinga amaaerobics, odlala ukarate, owenza yinoma yisiphi isports uyawadinga amaaerobics ukuze akwazi ukusizakala. (They combine it all because a person who trains in soccer, needs aerobics, playing karate, whether you're doing any sports you need aerobics to be able to get help).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes, so iyona nhloso yami, engangeniswa iyona emaVarsity. (That was my aim and what made enter universities).

**INTERVIEWER:** Okay so wenza kanjani? (So, how do you do it?) Ngizama ukuunderstander, (I am trying to understand,) you're mentioning a few areas where you are on how to do it? for instance DUT, Albert, Virgin Active, Nyuswa? Ngizama ukuundetstander ukuthi (I am trying to understand) how do you do it?

**INTERVIEWEE:** Ngishafulisha kanjani? (How do I shuffle?).

**INTERVIEWER:** Yebo. (Yes).

**INTERVIEWEE:** Angazi noma uzokukholwa yini lokhu ukuthi ngisuke sengivukile mina ngo 4.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** 4am ngisuke sengivukile, 4:30am ngiyaphuma endlini... sometimes nginklasi angifuni ukuwubala kakhulu uVirgin Active, but sometimes

ngineklasi eVrigin Active. (At 4am I am already up, 4:30am I leave the house... sometimes I have a class, I don't want to count Virgin Active a lot, but sometimes I have a class at Virgin Active).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Uma ngisuka... (When I leave...).

**INTERVIEWER:** Everyday?

**INTERVIEWEE:** Ziyashintshana izinsuku, but eAlbert, daily ngo6 ngisuke sengikhona ekuseni because kufanele ngikwazi ukumelana nabantu abasebenza inight shift. (Days are interchangeable, but at Albert, daily at 6 I am already there in the morning because I have to be able to stand the people who are doing night shift). Bakwazi ukuthola ifacility kwabaphuma ngo 8am. (They must be able to get the facility from those who leave at 8). Abangena iday shift abafuna ukuqala noma bengena ngo 8 emsebenzini I do them. (Those who do day shift and want to start even though they have to enter work at 8 I do them). Ngivala ngo 6:30pm. (I close at 6:30). Namhlanje ngisheshe ngayivala, ngivala ngo6:30pm. (I closed early today.).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** So, yes usuku lwami lonke luphelela eAlbert, isonto lami lonke liphelela eAlbert (my whole day is spent at Albert, my whole week is spent at Albert)... emaVirgin Active ngingena ngezinsuku ezithize mase kuthi Saturday njalo ngo7:30am to 9am ngisuke ngikwaNyuswa. (At the Virgin Actives I attend on various days and then every Saturday at 7:30am to 9am I am at KwaNyuswa). It's a given akushintshi (it doesn't change), so uma ngingasho nje iqiniso usuku engirester ngalo lunye uSunday (if could just speak the truth I can say that the only day I rest is Sunday).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** eVarsity sishawe iCOVID. (At Varsity COVID hit us).



**INTERVIEWER:** Yes.

**INTERVIEWEE:** Kunomfwethu ongisizayo eAlbert, uyena engikwazi ukushiya kuyena angivalele igym. Ngo5pm to 6:30pm noma 7pma ngisuke sengiseVarsity ngiyawashintshanisa ngisuke ngiseWestville campus noma ngiseEdgewood campus noma ngiseHoward. (At 5pm to 6:30pm or 7pm, I am at the Varsity, I change them from time to time, I'm at Westville campus or I'm at Edgewood campus or I'm at Howard). Kwesinye isikhathi ngibahlanganisa bonke (At other times I put them all together). Mhlampe uma ngizokwenza a (Maybe when I'm going to do a) small event.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** But ngiyazama ukuyiphusha. (I am trying to push it).

**INTERVIEWER:** That's a yearlong programme hayi (not) every day?

**INTERVIEWEE:** Usuku nosuku (day by day).

**INTERVIEWER:** It's a heavy programme.

**INTERVIEWEE:** uDokotela angasho njalo... (The Doctor can say that).

**INTERVIEWER:** But kuyadepender uma uthi uqala ngo 6 (it depends though if you say you're starting at 6am) and its 1 h 30 minutes to 2 hours.

**INTERVIEWEE:** I do rest in between, yes.

**INTERVIEWER:** Okay. So, it's 2 hours in the morning?

**INTERVIEWEE:** 2 hours in the morning, kunamaclients azoqhamuka kulesikhathi engiphumula kusona (there are clients, will come a long as I am resting). Mina into engisizayo ngineschedule sami sokujima, it doesn't affect me in the work that I do because I don't work out with members when I work out. (What helps me is that I have a schedule of working out. It doesn't affect me in the work that I do).

**INTERVIEWER:** Okay.

**INTERVIEWEE:** I train, I need to observe.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** When I get my time, as I said 1 to 20 minutes to 30.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** That's my time, that's why I was saying that when I work out I need to rest the day after and then the muscle can be able to absorb. That motivates me in such that the body isn't overworked and the mind isn't overworked. The mind gets affected when the body is tired. It gets overworked for real so sleeping early and waking up early has become my life Doctor that's when you're committed to something.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** And you enjoy it?

**INTERVIEWEE:** Yes, I do very much.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** You see as it is I am coming from clients right now, they were so happy when they left the classroom after the programme that I gave them and I was happy. You see one of the reasons is that they were scared to go the gym. I wrote a letter that was going to go to the hospital management I stated why gym is imported and why people must go back to gym.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I had a wish that they would open while COVID was still at its peak and then the problem was that our hospital started working a lot with people infected with COVID and then we had internal problems. So, we couldn't open, but I had a wish that at the time when our staff at the hospital was scared to work. And us not being there to assist them to come to distress at the gym and show them the guidelines on why it is important for them to work out and

the disease that is existing disease is treatable and you can also protect yourself. Because I got here and a lot of people's bodies were ruined.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** It's been five months.

**INTERVIEWER:** yes.

**INTERVIEWEE:** Their bodies are ruined due to stress.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I told them that it's a long process, but we're going to reach our goal. We had already reached it and the direction changed. It's a long process and we will reach it and they are happy to see me back.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** And I'm happy to be back at the gym.

**INTERVIEWER:** Okay. Sorry, what is the social status of your club members? Are they working are they at school? Are they unemployed?

**INTERVIEWEE:** When I go to the township people are unemployed, when I say at the townships I deal with the youth, I deal with old people.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I have people who do not study and they are done at work, I have people who are old, maybe others are pensioners. Which is the reason why when we go to the townships, when Phiwe goes to the township, why does he make sure that his services? He doesn't charge people...

**INTERVIEWER:** Yes.

**INTERVIEWEE:** It's because he knows the condition that people are living under. Take me and put me at Albert. At Albert it's a staff gym.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** It's a gym that people from the inside must go into the gym. People don't want to pay.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** But the system I came and used was that I asked Health to allow me to charge a small fee and they must help me with the maintenance of the facility if possible.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Because I mustn't kill people who are from the inside of the hospital to be afraid of coming to gym when it's their gym. So, they do pay, but they do not pay the money that you should be paying to run the business on the inside. So basically, they are the same as people who are donating.

**INTERVIEWER:** So, who pays?

**INTERVIEWEE:** It's the staff.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Individuals.

**INTERVIEWER:** Okay so it voluntary? It's not debited? It's not like a medical aid where I decide to join a medical aid and every month?

**INTERVIEWEE:** No, no they do debit.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** They do debit orders...

**INTERVIEWER:** So, they join upfront...

**INTERVIEWEE:** Because they have a contract that binds them that you take 6 or 12 months, but we make sure that the money won't be an amount that will raise eyebrows.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Because I was telling other clients today I was saying that gym was built for you guys not to exit here and wish to go to Virgin Active.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Go out of work and come inside here at the gym and when you go, enter your car and go home.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** But if we are going as private companies do, then there is no need for us to be there on the inside the hospital environment.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** According to the rules, if it were up to me the staff wouldn't be paying, DOH should have a budget for gyms, in that a month this is the budget gyms should be getting based on the fact that maintenance is this amount and the person working there on the inside must receive this amount of money.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I believe that the staff should be training for free, that's my opinion.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** We will put all of that in the pot so that when we finalise and hear other views, we hear what the [inaudible] says. Okay and how are the community views? What are the community views on exercise programmes?

**INTERVIEWEE:** Please repeat for me.

**INTERVIEWER:** Community views.

**INTERVIEWEE:** Community views?

**INTERVIEWER:** Okay, how do they view exercise programmes?

**INTERVIEWEE:** My leader, it happens that the community we're dealing with just like Nyuswa. When I arrived at Nyuswa people didn't know me, I was approached by one of the brothers who saw me on social media.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** But I got there and I built a good relationship with the people, to be able to work with different people at the same time. When a person watches a person who is training people, they're assessing them. It's not that they're there to train only. I assess you when you're training me Doctor so that I see if what you're making me do is good for me? Does it affect me? Reason why a person comes back tomorrow or they don't come back tomorrow.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** Yes, so I get feedback that what I'm doing is good and they wish to see me again. I think I did it for a month, I started last month. I was going to do one month; my brother here was helping with petrol the one that I employed we met each other half way. The community itself said, "May I train them until December because there is something we see that he is doing"...

**INTERVIEWER:** Yes.

**INTERVIEWEE:** That park... the ground is situated near a school. There are teachers, there's a principal there and the counsellor was even there last week that's the way it's growing. They are looking at that, since I entered Nyuswa, to uplift Nyuswa in how important they are alone and how much they can come together as whole as they are preventing crime. Together in hand with the counsellor of the community not from a particular party, to develop the area.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** So, my arrival opened people's minds that it is important to work out and it is also important for us to be together and get a long because we are one nation.

**INTERVIEWER:** So, you mean that the community's views are positive?

**INTERVIEWEE:** Yes, they are positive Doctor, you can't miss this... and I don't miss... you see when it comes to that Doctor, I don't miss. You can go out of here and go to any other club and ask about INTERVIEWEEokhela, they will let you know.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** And if you were to meet at the club, the person you are seeing now, you won't see.

**INTERVIEWER:** Oh, okay.

**INTERVIEWEE:** Because if I enter the club, I have to always be here because people here at the club are my bosses.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I must be able to treat my boss, I cannot be above my boss. I am speaking now Doctor because you asked me about my life I am comfortable.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** But if I enter work, at Albert. People see me outside of Albert and get shocked and say, "Phiwe, you're able speak" or this is how active you are? And I say, "No, if I am dealing with you I have to give you your space.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** You see Doctor there is nothing more important than respecting a client.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Let's say, I am training a married lady. If a person arrives at you and doesn't let you know that they are married, you don't need to read between the lines. Another thing, that's why I touched on discipline because we need to respect our work. You mustn't see each client who is the opposite

gender and starting thinking in another way. That person who comes to you has an intention, they are not bored.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I mustn't now change when this person is in front of me and then I start viewing them in another way that is not professional. Work must always be the priority, don't miss, because if you miss the work, you're dead. If I take my client and I bring them close to my heart. I have killed my job, I'm taking a married client, I have killed my reputation or I just take a client who came for something serious and I take it and turn this whole thing around. That kills you, it kills your reputation and we see it happening, I don't want to lie. You also hear incidents at gyms, personal trainers or instructors, this and that happened. That is why I was saying earlier on that I wish that if we were to be growing each other, discipline must never be left out because you have to love the work. That's why I say that I am not lazy to wake up because I know I am going to my clients that I treat well. Whether they are married or not, they are small or they are old, they are all the same to me. I have about 80 adults who work out. There is a granny, sorry for calling them a granny, I don't even call them a granny when I'm with them she is a matron Mrs. Hiya.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** She is the oldest at the gym, she's about 78 if I'm not mistake, but she is the most active, she passes even children. The reason for that is that when she arrived at the gym she said, "My child my bones are no longer in a condition to do all things" and I said, "No, we'll do it bit by bit and I hope that everything can still work again". I made her feel positive, she said if she entered wont the kids laugh at her? And I said you see if you're in class and there is 50 people. The 50 of all of you are faced with one person only, your teacher. You don't care about the person next to you what they say or what they do and that will never happen. And for real I haven't had a problem where I have a problem that my clients get into an argument when I'm training them. All of them are based on me. She always stands in the front, she doesn't miss at all.



**INTERVIEWER:** That's good.

**INTERVIEWEE:** She is the most active, passing all the kids who are there at the gym. I even told her yesterday, I complemented her and said, I am surprised that we just got back from lockdown, but you have so much energy, your endurance, your strength. She said, there is something that you taught us that we train whether we are in front of you or not. It's important that we work out because a person has to reflect themselves.

**INTERVIEWER:** So, she does it alone now?

**INTERVIEWEE:** Yes.

**INTERVIEWER:** Okay and then, my last question to you. How is the club membership constituted in your environment in terms of gender and in terms of age? You've probably answered this, but it's a final question.

**INTERVIEWEE:** Yes, we do not separate them, a membership is a membership, it doesn't change, whether you're young or old.

**INTERVIEWER:** I'm saying that your own observation of people participating in an exercise group...

**INTERVIEWEE:** Oh yes, with regards to me?

**INTERVIEWER:** Yes, how is constituted in terms of gender and age?

**INTERVIEWEE:** I think that it lacks because there should be a difference in their contracts, with the reason that they are not the same age according to me.

**INTERVIEWER:** Okay, who and who?

**INTERVIEWEE:** We have old people, we have old people who are pensioners, we have people who work and then we have youth. A young person is someone who still asks at home, that person studies.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** We cannot plant love when we're taking money out of their pockets. We then have a person who works, a working person we can deal with because they work, they pay for things.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** For an old person it's important that we give them gym first rather than paying because old people need gym. It's the reason that makes some of them last sometimes, it's important for them to train. So, I don't see it as a good thing for our contracts to be the same for them, when they are different.

**INTERVIEWER:** And in terms of the majority of people who participate in exercise programmes. In terms of gender, which group?

**INTERVIEWEE:** We have females.

**INTERVIEWER:** And then age group?

**INTERVIEWEE:** You can take it to 20 years to 50 years.

**INTERVIEWER:** And what are the reasons for the other groups not participating in your view?

**INTERVIEWEE:** I believe that the kids under the age of 20 are still going through a stage, according to my knowledge and other are at school. High school is very important...

**INTERVIEWER:** Okay.

**INTERVIEWEE:** You don't get a chance to be exposed to activities this much when you're in High School. You get exposed when you're in varsity because those things are there on campus rather than High Schools, they aren't there in the High Schools. So from 20 onwards, those are people who are exposed in life and then they see okay this is how gym goes here and I'm here and I'm here. But for those who are still young they are being monitored by parents most of the time. In that you go from here to there and then your limit is reached.

And then with old people, most of them don't work out anymore and that makes them have more diseases and they get sicker. You will second that for me Doctor, ever since activities started in arrears, your work is now easier.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** At other times because we have entered, we can help people so that when they arrive at you, there is less work. It's not the same as before where you find that a person arrives to you and do a check-up. There life on earth are coming closer to an end.

**INTERVIEWER:** And then males? Why don't you see them?

**INTERVIEWEE:** As males we have a problem Doctor, you know the activities we believe in. We would like to be together to do something that will make us happy, not one that will make us focus.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Yes, at gym you focus Doctor, other things on the outside make you happy. They don't make you to become stable.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** I don't want to count names let me just put it like that.

**INTERVIEWER:** Okay.

**INTERVIEWEE:** We don't get focused when we're doing this, we're just pleasing ourselves. That's where we say we are distressing, but gym makes you focused. It makes you to be disciplined, in that you know who you are and what you want in life.

**INTERVIEWER:** That was my last question. Is there anything that you would like to share or to add?

**INTERVIEWEE:** I'd like to thank you for the opportunity, since dawn I have been thinking what will this interview be about? Mostly a person gets information first before they arrive at the interview. I then said, "No, but because they're going

to ask me about my work, I don't think we'll have a problem". What I wish to see Doctor, is what I was saying, it's to see our communities, when I'm talking about communities I'm talking about all the races, whether you're Black, Coloured, Indian or White I am talking about all races, because we're facing a problem everywhere. I wish to see the youth stand up and own itself. When it owns itself, a person must have something that they will be able to live off with. Reason why our minds are damaged, it's what's happening Doctor. That's why I'm saying I blame history because history is taking us way back. Believe it or not it's pushing us backwards...

**INTERVIEWER:** Yes.

**INTERVIEWEE:** If you'll take me and make me watch documentaries about what happened in the past, they do not help me, but they're taking me back. They want me to have anger they want me to be hurt emotionally as to what happened? The only thing I wish right now is somebody that is going to stand beside or next to me and say, "Phiwe that is possible" that can happen, we're entering that door, we're crossing that bridge no matter how dark it is. I don't need somebody who is going to give me negative things and say to me "Phiwe you cannot do this". You can see the state of life that's not me, I never told myself that I would be on the channel that I'm on Doctor, but I'm on it today and it's working for me and I thank God for that because it means that I am created to be able to help people live. I make people live in different ways, they are alive emotionally and their body will come alive as well and go and head home. People are looking forward to gym, people are looking forward to tomorrow, with me.

**INTERVIEWER:** Yes.

**INTERVIEWEE:** They were saying it right now, "teacher please sleep well and don't wake up feeling grumpy, because we haven't seen you in a grumpy mood so tomorrow can go as you said it would." Because when we were going out I told them what we will be doing tomorrow and they were excited, that's how you run gym, that's how you run your environment. Keep people on their toes, they

need to be happy. So, I wish Doctor that no matter which race it is, to be united and hold each other and then grow each other. It doesn't miss...

**INTERVIEWER:** No, thanks a lot for at least, I can see that you're busy. You know the period you gave me at short notice, I appreciate.

**INTERVIEWEE:** Yes.

**INTERVIEWER:** Yes, so all these contributions will come together. This will probably take the next year and half to finalise. **So, it's not something you will hear tomorrow that I'm done.** We still have a lot of people to see and then the next stage. Maybe I will still see you, there is second phase where I am going to go to your members and I will give them questionnaires. The first phase assists me to develop a questionnaire for them no...

**INTERVIEWEE:** My door is always open Doctor.

**INTERVIEWER:** So, I'll go through that as well, to club members to get their views as well and then I combine everything into this port and then I write and then after that it's writing and then interacting with other people and then finalising and submitting. If it makes sense, it will come out probably at the end of 2 years or that's how long it would take...

**INTERVIEWEE:** **The health life is like that Doctor, you don't rush it, what you're speaking about is something that I know.**

**INTERVIEWER:** Okay.

**INTERVIEWEE:** **I always say there was a member who came to me I think it was January or March 2018 and they said to me I am getting married in August, I want to lose weight.**

**INTERVIEWER:** Yes.

**INTERVIEWEE:** **I laughed a little and then I took and put her in the office and we joked about it and when she was in the mood. I then said, you see you need to commit when it comes to gym that it's your life. It's not something that you'll wake up and do tomorrow because you want to reach a goal. Gym is your life,**

gym should be part of your life, as you have children and you wish to get married you're strengthening your life, right? I wish you could take gym and include it in that way. She says, "you don't get the results by tomorrow" I said, we only get results if we're not going to stress and take this and plant it inside the heart. That person is married Doctor...

**INTERVIEWER:** Okay.

**INTERVIEWEE:** They're in a state of life that, your decreases bit by bit and the husband is happy. I then told her, she then said what makes me happier is you decreased the pressure I was putting on myself in because I was thinking for my husband and thinking for people who're going to be looking at me. I said, if you think about it, why would your husband say they're going to marry you if they don't love you. He had already seen how you are, if you see yourself as tube because she was calling herself a tube, he wants a tube. He didn't look for beauty, he looked at your qualities. Right now, you showed qualities by standing up from that stool and said you're going to commit yourself to gym. You see?

**INTERVIEWER:** Yes.

**INTERVIEWEE:** I wish Doctor that if we ever see each other again, I will take you and put you in all the environments that we work with that are important. I am not including Virgin Active Doctor, even when I'm thinking of things I don't include them because there's nothing that they help with in places, there's nothing I don't want to play with you. For us as people who work for them, they can't if they are closing the club tomorrow. You see if they were closing King's Park tomorrow, you won't even get one of those machines because they look at you as competition. They forget that it was I who was helping their people, I was the one making the member enter here. They will want to be seen, there are those people who like to be seen when they're doing things. They will say we will take the things and donate with them to the government, they give them to municipalities, metros, SAPS or the firefighters. When we write proposals that we have halls in the townships, we need training facilities and we don't have money. They will never ever respond to us because they look at us as people who oppose their business.

**INTERVIEWER:** So, if they give it to you then they would get less members?

**INTERVIEWEE:** Yes, take that member and bring that member to us. And I'm like how will I take a member when they don't have money to come to you? Because you must help me by helping let the members live. What's your reason of being there?

**INTERVIEWER:** Yes.

**INTERVIEWEE:** Are you here to make money, or are you here to save people's lives, so that's the problem we normally face. So that's why when I put DOH at Albert and said I wish that in a long run, I think it will pass... to see my members not paying, seeing the staff gym expanding and all of them working out without paying, Health is paying because I know that they have a budget. It's a matter of getting the right channels and for them to hear the proposals in a better way, I don't know. Going back to Nyuswa and KwaMashu where I stay, I will enter with you and come out the other side.

**INTERVIEWER:** That's fine, thanks a lot, you said you sleep early and you wake up early, I'm scared now.

**INTERVIEWEE:** Thank you.

**[END OF RECORDING]**

## Appendix 8: Letter from the statistician

**Gill Hendry** B.Sc. (Hons), M.Sc. (Wits), PhD (UKZN)  
Mathematical and Statistical Services

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2 November 2021

Re: Assistance with statistical aspects of the study

Please be advised that I have assisted Musa Gumede (Student number 21751941), who is currently studying for a PhD in Health Sciences at DUT, with the alignment/development of the questionnaire and the statistical analysis of his data.

Yours sincerely

*Dr Gill Hendry*  
Private Consulting Statistician



## Appendix 9: Letter from the professional editor

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**EDITING CERTIFICATE**

LANGUAGE EDITING SERVICES

Date: 2021/12/3

This serves to confirm that the document entitled:

**DEVELOPMENT OF A POLICY FRAMEWORK FOR THE  
ESTABLISHMENT OF PHYSICAL EXERCISE PROGRAMMES IN  
REDUCING NON-COMMUNICABLE DISEASES IN THE PROVINCE  
OF KWAZULU-NATAL, SOUTH AFRICA**

Musa Gumede (21751941)

has been language edited on behalf of its author, with recommendations for improvement.

Genevieve Wood  
PhD candidate  
Wits University

## Appendix 10: Turnitin report

Feedback Studio - Google Chrome  
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feedback studio Musa Gumede DEVELOPMENT OF A POLICY FRAMEWORK FOR THE ESTABLISHMENT OF PHYSICAL EXE... /100

### ESTABLISHMENT OF PHYSICAL EXERCISE PROGRAMMES IN REDUCING NON-COMMUNICABLE DISEASES IN THE PROVINCE OF KWAZULU-NATAL, SOUTH AFRICA

Musa Gumede (21751941)

Thesis submitted in fulfilment of the requirements for the Philosophiae Doctor in Health Sciences in the Faculty of Health Sciences at the Durban University of Technology

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