THE OUTCOME OF AN OCCUPATIONAL THERAPY PROGRAMME FOR GRADE 8 AND GRADE 9 LEARNERS WHO USE SUBSTANCES

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A Dissertation submitted to the Faculty of Health Science, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for the degree of Master of Science in Occupational Therapy

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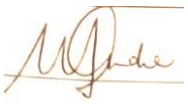
DECLARATION

I, Nokutula India, hereby declare that this dissertation is my own original work (except where acknowledgements indicate otherwise). It is being submitted for the degree of Master of Science in Occupational Therapy at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

Signed: 

Date: 10.02.2021

DEDICATION

This study is dedicated to individuals and families affected and effected by the use of substances, especially the learners who abuse substances and need intervention, however, feel stuck with no way out.

My heartfelt dedication goes to the families of substance users, and I would like to say there is help available, you just have to find the right people willing to assist towards loved ones' recovery.

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ABSTRACT

Introduction

The Matthew Goniwe Comprehensive High School (MGCHS) in Cradock, which was the research site for this study, has a high number of learners identified as using substances by the school drug testing protocol. This school has a substance use support programme, but occupational therapy was a new addition. The purpose of this study was to evaluate the outcome of a specially designed group occupational therapy programme to the school substance support programme.

The aim of the study was to design and implement an appropriate group occupational therapy intervention programme and then evaluate the effect on behaviour, academic performance and time use for learners identified with substance use.

Methodology

A quantitative randomised control trial using an experimental design was undertaken. Total population sampling recruited Grade 8 and 9 learners identified as using substances into the study. The learners were randomly divided into an experimental and control group. Only participants in the experimental group attended the group occupational therapy programme, but both groups attended the school substance use support programme. Demographic data as well as academic performance and behaviour were collected using the Child Behaviour Checklist (6-18 years) Teacher Report Form (CBCL-TRF) at the start of the study. The CBCL-TRF was repeated at the end of the study and again six months later. The activities health assessment, as a programme outcome, was used to collect time use data at the end of the study. Descriptive and non-parametric statistics were used to determine the differences between the two groups.

Results

Forty-five participants took part in the study, 23 in the experimental group and 22 in the control group. There was no statistical difference between the two groups on the demographic variables. There was no change between the groups' scores before and after the CBCL-TRF, but there was a significant improvement on scores for the experimental group six months later. The academic pre- and post-experiment scores

for the control group remained the same, while those of the experimental group improved significantly between the two data collection periods. There was no significant difference in activities health between the two groups at the end of the study.

Conclusion

The specifically designed occupational therapy programme did not influence the behaviour of the experimental group participants initially, but a significant change was noted six months later. The programme influenced the academic performance of the experimental group participants but did not influence their activities health.

KEYWORDS: Substance use; Occupation; Behaviour; Learners; Programme;

Activities Health; Time use; Intervention; Therapy; School.

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NOMENCLATURE

Activities Health: “Activities health” describes the state of wellness in an individual’s every day activities and occupational performance (Cynkin & Robinson, 1990). For daily activities to be considered healthy, the following criteria must be considered. There should be enough variety of activities and balance between different types of activities. The doer should experience comfort and satisfaction in his daily activities, and these daily activities should be considered socially appropriate by himself and significant others in the environment (Cynkin & Robinson, 1990).

Activities of daily living: The Occupational Therapy Practice Framework: Domain and Process, third edition identifies a broad range of occupations categorised as activities of daily living (ADLs), instrumental activities of daily living (IADLs), rest and sleep, education, work, play, leisure, and social participation (American Occupational Therapy Association, 2014). Activities of Daily Living (ADL’s) are also called self-help or self-care activities, and can include everyday tasks such as dressing, self-feeding, bathing**,** laundry, and/or meal preparation (Cincinnati Children's Hospital Medical Center, 1999-2019) (www.cincinnatichildrens.org).

Adolescence: The transition phase of growth and development between childhood to adulthood (Csikszentmihalyi, 2019).

Adolescent: The World Health Organization (WHO) defines an adolescent as any person between the age of 10 and 19 (World Health Organization, 2018).

Behaviour: The way in which a person behaves or acts or conducts oneself, in response to a situation or stimulus (Oxford Dictionary, 2019). It is also described as a repeated violation of the basic rights of others and the rules of society, for example, lying, theft, aggression, truancy, the setting of fires and vandalism (Department of Basic Education, 2010)

Creative Ability: The ability to present oneself freely, without anxiety, limitations or inhibitions (Crouch & Alers, 2014).

reative Participation: The process of being actively involved in all activities concerned with everyday living (De Witt, 2014).

Drug: A drug can refer to substances that are **legal** (for example, alcohol, tobacco, over the counter medications and household goods, such as glue) and **illegal** (for example, cannabis, methamphetamine, heroin, and cocaine) (LiveMoya, 2013).

Free Time: Time not used for personal, work or social commitment (De Witt, 2014)

Human occupation: The doing of work (paid and unpaid), play or activities of daily living within a temporal, physical and sociocultural context that characterises much of human life. The focus is on everyday life rather than illness or disability (Kielhofner, 2008).

Identity: The fact of being who or what a person or thing is (Oxford Dictionary, 2019).

Illicit: Forbidden by law, or illegal (Oxford Dictionary, 2019)

Learner: A person who attends an Early Childhood Development centre, school or Adult Based Education and Training Centre (Department of Basic Education, 2010).

Methamphetamine: A powerful stimulant drug known for its euphoric effects and the energy it triggers in users. The drug comes in several forms, including pills and an odourless powder that can be snorted or dissolved in liquid. Some abusers also smoke a more potent version of this drug, which comes in a form such as crystals or ice.

Motivation: This may be defined as the inner condition of the organism that initiates or directs behaviour towards a goal (De Witt, 2014).

Crystal meth, or ice as it is commonly called, are the same drug as meth, but in a more potent, distilled form. (https://www.therecoveryvillage.com).

Occupation: The everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose to life. Occupations include things people need to, want to and are expected to do (American Occupational Therapy Association, 2014).

Occupational identity: The “composite sense of who one is and wishes to become as an occupational being generated from one’s history of occupational participation” (Helen S Willard, 2014).

Occupational Therapy: A client-centred health profession concerned with promoting health and wellbeing through occupation. The primary goal of occupational therapy is to enable people to participate in the activities of everyday life. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement (WFOT, World Federation of Occupational Therapy, 2012).

Substance use: According to the DSM 5, the essential feature of a substance use disorder is a cluster of cognitive, behavioural, and physiological symptoms indicating the individual continues using the substance despite significant substance-related problems. An important characteristic of substance use disorders is an underlying change in brain circuits that may persist beyond detoxification, particularly in individuals with severe disorders. The behavioural effects of these brain changes may be exhibited in the repeated relapses and intense drug craving when the individuals are exposed to drug-related stimuli. These persistent drug effects may benefit from long-term approaches to treatment. Overall, the diagnosis of a substance use disorder is based on a pathological pattern of behaviours related to the use of substance (American Psychiatric Association, 2013)

ABBREVIATIONS

ADLs:	Activities of Daily Living
AIDS:	Acquired Immunodeficiency Syndrome
ASEBA:	Achenbach System of Empirically Based Assessment
CBCL:	Child Behaviour Checklist
DSM 5:	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
EC:	Eastern Cape Province
ELOT:	Equity Lens for Occupational Therapy
HIV:	Human Immunodeficiency Virus
ICD-11 MMS:	International Classification of Diseases for Mortality and Morbidity Statistics, Eleventh Revision
MDT:	Multidisciplinary Team
MGCHS:	Matthew Goniwe Comprehensive High School
MoCA:	Model of Creative Ability
MOHO:	Model of Human Occupation
NIDA:	National Institute on Drug Abuse
RDP:	Reconstruction and Development Programme
SA:	South Africa
SACENDU:	South African Community Epidemiology Network on Drug Use
SADAG:	South African Depression and Anxiety Group
SAHR:	South African Health Review
SAMHSA:	Substance Abuse and Mental Health Services Administration

SANCA:	South African National Council on Alcoholism and Drug Dependence
STI:	Sexually Transmitted Infection
TB:	Tuberculosis
TRF:	Teacher Report Form
UNODC:	United Nations Office on Drugs and Crime Prevention
WITS:	University of the Witwatersrand
WHO:	World Health Organization
YSR:	Youth Self Report

CHAPTER 1: INTRODUCTION

1.1 Background to the study

According to the DSM 5, the essential feature of a substance use disorder is a cluster of cognitive, behavioural, and physiological symptoms indicating the individual continues using the substance despite significant substance-related problems. An important characteristic of substance use disorders is an underlying change in brain circuits that may persist beyond detoxification, particularly in individuals with severe disorders. The behavioural effects of these brain changes may be exhibited in the repeated relapses and intense drug craving when the individuals are exposed to drug-related stimuli. These persistent drug effects may benefit from long-term approaches to treatment. Overall, the diagnosis of a substance use disorder is based on a pathological pattern of behaviours related to use of the substances (American Psychiatric Association, 2013).

In Africa, the illicit drug users make up about 17% to 21% of global illicit drug users, with cannabis abuse being the most frequently used (63%) (Peltzer, et al., 2010). In South Africa, it is estimated that around 28% of the population consumes alcohol regularly, while cannabis use among adolescents ranges from 2% to 9%, and among adults is 2% (Peltzer, et al., 2010). In many cases, there is a fine line between regular use, substance use and addiction (Hobson, 2015).

In adolescents, it is a major concern that behaviour is influenced by substance use and abuse, as this is the basis of the effects on society (Dumas, et al., 2012). In South Africa, substance use has been accompanied by corruption, relational violence, dangerous sexual conduct with an increased risk of Human Immunodeficiency Virus (HIV) and Sexually Transmitted Infections (STI) (Peltzer, et al., 2010). Furthermore, substance use negatively influences the users' health, producing psychological consequences, which negatively influence the development of adequate occupational performance (Tomo, 2016) over the lifespan, but especially amongst the youth (National Department of Education, 2013). According to the South African National Strategy for the Prevention and

Management of Alcohol and Drug Use Amongst Learners in Schools (National Department of Education, 2013), substance use is particularly problematic to the teaching and learning of the school going youth.

South African research has suggested that approximately 35% of learners in Grades 8-11 used alcohol during the past year, whilst 21% of them have smoked tobacco (Reddy, et al., 2010). It is alarming that the rate of learners who binge drink monthly is 29% (having five or more drinks in one sitting) (Reddy, et al., 2010). Although 12% of learners used at least one illegal substance, such as Mandrax, Heroin, Cocaine or Methamphetamine (Tik), the study by Reddy et al. (2010) has further revealed about 10% use cannabis (Reddy, et al., 2010). In compliance with the

South African Schools' Act 84 of 1986, schools have banned the use, possession and distribution of alcohol, tobacco and drugs on the school surroundings, however, Reddy et al., reported 8% of learners have used cannabis, whilst 9% had been offered, sold or given illegal drugs, and 13% of the learners have used alcohol on school property (Reddy, et al., 2010). This was also true at the Matthew Goniwe Comprehensive High School (MGCHS) in Cradock, a secondary school in the Chris Hani West district of the Eastern Cape Province, where the researcher provides occupational therapy services.

This school is reported to have the highest rate of substance use in the area, according to the educators and the community members of Cradock. Learners bring drugs into the school surroundings and share them with other learners. Many learners have tested positive for use of alcohol, tobacco, cannabis and Tik, during school hours. Typically, when a learner is identified as a substance user, they are alerted by a healthcare professional about their substance use, the potential negative consequences, and given ideas to lessen the risks (National Department of Education, 2013). Despite this, these learners at the school continue to use substances.

Long-term substance use is reported to cause changes in the brain, which have some influence on important choice making, memory and the ability to learn, as well as increasing the craving and physiological need for the substance (Fairbanks, 2017). This can lead an individual to pursue and take drugs in ways that are beyond their control. In the case of Grade 8 and 9 learners of MGCHS, educators report that these characteristics manifest in most substance-using learners, when their behaviour and school work is most affected. These learners abscond from school to search for drugs,

and tend to gather on community corners smoking illicit substances whilst in school uniform and during school hours.

According to Stoffel and Moyers (2004), active intervention is indicated for youth who have a substance dependence syndrome, whilst Dietz (2017) states that it is best to incorporate these youth in the learning process as a collaborative active participant, for better intervention. Thus, those learners who are unable to function without the use of a substance require rehabilitation, including occupational therapy (Stoffel & Moyers, 2004; Dietz & Schriber, 2017). An occupational therapy intervention programme will thus be explored in this study. Occupational therapists have the knowledge and clinical competencies to assist clients to critically review their everyday routines and habits, and examine how substance use affects their state of health and their ability to carry out daily activities and occupations that are important for their education, family life, and their future roles in society (Stoffel & Moyers, 2004; Cruz, 2019).

1.2 Statement of the problem

A media article published at the beginning of 2017 reported a R17 million Cradock drug bust during a routine road check; the illicit substances found included mandrax and dagga (Marais, 2017). This confirmed the known but unsubstantiated availability of illicit substances in the area. There are no reported previous studies or reports on the extent of substance use in the school-going youth living in Cradock, however, the prevalence in secondary schools is known to be high. Although some intervention processes have been put in place to assist learners with a history of using and abusing substances, there is little evidence to determine the success of these measures. As a newly appointed occupational therapist in the Provincial Department of Education based in Cradock, the researcher was tasked with developing an occupational therapy programme that would address the problem of substance use in the surrounding schools, commencing with MGCHS. There were growing reports that the learners at MGCHS, who were known to be using substances, were aggressive, rebellious and demonstrated delinquent behaviour, which was difficult to manage in the school context. Some neglected their hygiene, were often truant and had poor academic performance.

The school educators were concerned that most of these learners would become school dropouts, with little hope of a successful future without an education and that they would resort to crime and violence in the future. A multi-disciplinary approach to tackle the problem of substance use amongst the learners of MGCHS had been introduced. The occupational therapy programme was the new addition to the school substance use management strategy. At the time of this study, there were no South African studies on school-based group occupational therapy intervention programmes for learners with a history of substance use. Consequently, the outcome of an added group occupational therapy programme to the schools' substance use support programme was unknown, particularly in changing the school behaviour, the academic performance and activities health of these learners from a low resourced context who have a history of substances use.

1.3 Research Question

Does participation in a group occupational therapy programme, specifically designed for learners with a history of using substances living in a low resourced context influence their behaviour at school, their academic performance and activities health?

1.4 The purpose of the study

The purpose of this study was to gather empirical evidence to evaluate the outcomes of the group occupational therapy programme designed specifically for the learners with a history of using substances, which was the new component in the multidisciplinary substance use support programme used at the school. A group approach to substance use framed this programme, and its overall purpose was to assist learners to engage in activities that were meaningful, purposeful and with just the right level of challenge (Fisher, 2014), where the desired outcome was to help them re-design their activity profile without substance use and re-establish their "lost" roles (Cynkin & Robinson, 1990; Lander, et al., 2013). This programme was also to integrate an emphasis on occupational performance, to encourage the learners to be independent in decision making regarding life choices and better their quality of life and future. The effect of the programme on the learners' behaviour at the school, their academic performance and their activities health will be explored in the study. This study was therefore a pilot programme, and the outcome will provide the evidence for

inclusion of such an occupational therapy programme in the existing support programme offered to learners with substance use problems at schools in the Cradock district.

1.5 Aim of the study

The study aimed to examine the effect of participation of Grade 8 and 9 learners, who had a history of substance use, in a group occupational therapy intervention programme to influence a change in their behaviour at school, their academic performance and activities health.

1.6 Null Hypothesis

An occupational therapy group programme developed for Grade 8 and 9 learners who had a history of substance use at MGCHS in Cradock will have no influence on their behaviour at school, their academic performance or their activities health.

1.7 Objectives

To test this null hypothesis, the following objectives have been formulated:

1. To design a group occupational therapy intervention programme for learners with substance use attending at MGCHS in Cradock.
2. To establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention and six months after the intervention.
3. To establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and, immediately after the intervention and six months after the intervention.
4. To describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme.

1.8 Justification for the study

There is little South African literature and research on occupational therapy intervention in a secondary school context for learners with substance use and abuse, although this is a known problem. This study will consider the implementation of school-based

group occupational therapy programme as part of the substance use management strategy at the school where the prevalence of drug use is high. The effectiveness of the school-based programme will be considered and may provide occupational therapists with clinical recommendations to address behaviour and attain a level of occupational performance meaningful to learners' life roles that may have deteriorated due to the harmful effects of substance use. As proposed by the International Classification of Diseases for Mortality and Morbidity Statistics, Eleventh Revision (ICD-11 MMS), hazardous use is defined as 'a pattern of psychoactive substance use that appreciably increases the risk of harmful physical or mental health consequences to the user or to others, to such an extent that warrants attention and advice from health professionals (World Health Organization, 2018).

1.9 Layout of the Study

This study has six chapters. The first chapter discussed the background of the study, the statement of the problem, the research question, the purpose and aim of the study, null hypothesis, objectives and justification of the study. The second chapter reviews pertinent literature on substance use from the international and South African perspectives. Substance use in adolescence, factors that influence substance abuse, such as access to resources, and use of their time are further explored. The literature pertaining to the consequences of substance use on health and occupational performance are examined. Finally, occupational therapy and other literature regarding interventions for school-going substance users is discussed. The third chapter reports on the methodology used in the study, which entails the study design, research site, study population and sample chosen. The measurement tools and research process are discussed in depth. The ethical consideration and data analysis are also found in third chapter.

The fourth chapter discusses the results, which are set out in tables and figures to explain the findings of the two groups involved in the study, the experimental and

1 control groups. The last two chapters, five and six, discuss and interpret the study 2 results in relation to existing literature, the limitations of the study, as well as further 3 research, clinical recommendations and conclusion of the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The study aimed to explore whether a group occupational therapy programme offered to learners with a history of using and abusing substances within a secondary school context, in an under-resourced environment in South Africa, could positively affect their behaviour at school, school performance and time use. The programme integrated an emphasis on occupational performance, encouraged the learners' independence in best decision-making regarding their life choices and to better their quality of life and future.

International and South African literature informed this study, and included substance use with specific focus on the adolescent users. The prevalence of substance use in adolescents was explored, as was the choice of substance, cause and consequence of substance use with attention given to behaviour, school performance and time use, which were the main variables of interest in this study. Literature specific to occupational therapy and group work for adolescents and learners with a history of using and abusing substances was used to inform the development of the programme that formed the experiment in this study. This chapter discussed substance use in adolescence from a South African and international perspective, the prevalence of substance use and abuse in South Africa, prevalence of substance use or abuse, the most frequently used substances, factors that influence substance use in adolescents, indications of substance use, and consequences of substance use, and the treatment and models used for such. The literature search was limited to studies and reports published between 2010 and 2020, however, seminal and related work that fell outside of this period was also included, as it was found to be more valuable and pertinent. During this research, a variety of search engines were used, such as University of Witwatersrand online database articles were found on Academic Search Library, Psych Info, Psych articles, Psychology and Behavioural Sciences Collection, Occupational Therapy, Medical, Scientific, Psychiatric and Social Work Abstracts and SocIndex with full text. Google Scholar, Microsoft Academic Research, ResearchGate, ScienceDirect, PubMed, Educational Resources Information Centre (ERIC), Encyclopaedia, Internet Archives and MSN.com. The terms used to search for appropriate literature included 'substance use,' 'substance use and adolescents,'

‘adolescents,’ ‘substance use in adolescence,’ ‘occupational therapy in substance use,’ ‘occupation,’ ‘programme principles,’ ‘occupational therapy journals on substance use,’ ‘risks of using substance in adolescence,’ “substance use treatment for adolescents,” “most effective substance use treatment for adolescents,”
“addiction treatment” and “children and adolescents.” The use of a variety of terms increased the chances of finding more appropriate and culturally attentive sources.

2.2 International perspective on substance use in adolescence

According to the World Health Organization (WHO), substance abuse is persistent or sporadic drug use inconsistent with or unrelated to acceptable medical practice. Of the global population aged 15 and over, 44.2% used illicit drugs, causing 0.8% of the total burden of disability (Divakar, et al., 2018).
The world has been in a cycle of substance dependency with the exponential effects seen over decades. The use of both drugs and alcohol have shown to affect physical and cognitive function (World Health Organization, 2018). To address this cycle of dysfunction, evidencebased treatment and prevention programmes for all related issues need to be introduced for the individuals using substances, as well as their family members and children (Gaffar & Deeba, 2017). The World Health Organization programme on substance use studies provides information on the health effects of natural and manufactured psychotropic products. This information is made available to state members to assist them in establishing national policies and programmes to control the distribution and use of substances as well as care for and treat problems related to substance use. The principles of a national programme include a review of tobacco, alcohol, volatile solvents, cocaine and cannabis use giving an international perspective. It is concluded that a comprehensive programme and strategy includes appropriate policies, prevention, reduction of harm, treatment and care should involve both primary healthcare and community participation, for it to be more successful (Monteiro, 2009).

An Iranian study done in 2015, states that adolescence is a vulnerable period for drug initiation (Pirdehghan, et al., 2019). The study further concurs that abusing drugs such as alcohol, narcotics, analgesics and other substances is becoming a world problem (Pirdehghan, et al., 2019) An Iranian study further mentions that their adolescents frequently use Hookah pipe smoking, which is becoming a problem in

that country (Pirdehghan, et al., 2019). A related study conducted in southern Thailand found that substance use is a serious social challenge that has continuously increased over a long time, and currently affects society, the economy and national development (Yaimai, et al., 2019). Research indicates that if suitable management approaches to the issue cannot be implemented, adolescents who are substance dependent turn into older substance dependents within no time. These adolescents may become parents making their children susceptible to the difficulties related to substance use disorder and difficulties due to the vicious cycle of dysfunction related to drug dependency (Knight, et al., 2007).

2.3 South African perspective on substance use in adolescence

According to the policy for a girl's high school in Grahamstown, Eastern Cape Province, substance use is described as the concern for all parents of school age children, and is the most critical challenge facing South Africa (Hobson, 2015). Literature suggests that substance use in adolescence comes in many forms and results from just as many, if not more reasons (Tshitangano & Tosin, 2016). According to Hobson (2015), children in South African schools are targeted as potential drug users and are vulnerable. They are victims of an easily available and affordable variety of drugs through powerful local syndicates with national and international connections (Hobson, 2015). Many adolescents do not fully understand the severity of drug use and consequent addiction (Netcare News, 2018).

2.3.1 Prevalence of Substance use or abuse in South Africa

There are many younger individuals under the age of 20 years who have been reported in the South African substance abuse treatment centres, comprising of between 17% and 28% of those in treatment (Plüddemann, et al., 2010). According to the South African demographic and health survey, conducted in 2003, 52% of Cannabis users were under the age of 20 (Central Drug Authority, 2014). However, in the 2008 South African national HIV prevalence, the HIV incidence, behaviour and communications survey, 28% of individuals who were HIV+ were admitted due to alcohol use, of whom 42% were males and 17% females (Central Drug Authority, 2014). Most literature reports that substance use and abuse is more prevalent in males than females (Peltzer, et al., 2010). In a pilot study completed across the nine provinces in South Africa, in

2014, it was found that 65% of those surveyed admitted to having a drug user in their homes (Central Drug Authority, 2014).

2.3.2 Most frequently used substances

A study conducted in India by Divakar et al. (2018), states that use of tobacco, alcohol, and other substances is a worldwide problem and affects many children and adolescents. The study also showed that the majority (66.6%) were using tobacco in different forms along with other substances, 16% were using only alcohol, 10% were using only chewable tobacco, and 6% were using only cigarettes (Divakar, et al., 2018). Substance abuse has been adopted by the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM 5), as a blanket term to include abuse of 10 separate classes of drugs, "including alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, hypnotics, and anxiolytics, stimulants, tobacco and other substances" (American Psychiatric Association, 2013, p236). The statistics showed that the use of cannabis, cocaine and methamphetamine (Tik) in South Africa was twice as high as the global use (Central Drug Authority, 2014). Alcohol, cannabis, cocaine, Tik and heroin are some of the most frequently used substances in this country, according to the South African Depression and Anxiety Group (SADAG). In the Eastern Cape Province (EC), the main substances of use reported by the treatment centres from July to December 2017 were alcohol, cannabis, methamphetamine and or mandrax (together comprising 98% of all admissions) (South African Community Epidemiology Network on Drug Use, 2017).

Cannabis remains the first choice of drug initiation for the adolescents (United Nations Office on Drugs and Crime, 2018) and most learners reportedly use it as it is cheaper and easy to access (Pluddemann, et al., 2002). Most illicit cannabis is grown in the mountains of Eastern Cape Province and in KwaZulu-Natal (United Nations Office on Drugs and Crime, 2010), since these areas are more inaccessible. According to Interpol, South Africa is one of the top four herbal cannabis sources in the world (Peltzer, et al., 2010). Many rural families in both Eastern Cape Province (ithe former independent Republic of Transkei) and in KwaZulu-Natal, make their living on cannabis production (United Nations Office on Drugs and Crime, 2010).

2.3.3 Factors that influence substance use in adolescents and the effects thereof

While every addiction is different, there are some common reasons why young people become addicted to substance (Recovery Direct, 2018). One reason for substance use is that most young people are concerned with fitting in socially (DrugRehab.com, 2020). This is reported to be the most common reason for using drugs in search of a sense of belonging (DrugRehab.com, 2020). Being rebellious as a reason for initiating drug use, is also common in young adults or adolescents (Dumas, et al., 2012). Interpersonal distress, such as depressive mood and poor sense of wellbeing have also been linked to substance use, as reported by the South African National Strategy for the Prevention and Management of Alcohol and Drug use amongst Learners in School (National Department of Education, 2013). Behavioural problems such as aggression, rebellion, delinquency and unconventionality are included in the personality factors associated with substance use (National Department of Education, 2013).

The National Department of Education (2013) has determined that having adequate self-esteem protects learners from substance dependence, as does positive interpersonal relationships and taking responsibility (National Department of Education, 2013). During adolescence, the brain and body are still developing and introducing drugs and alcohol before the age of 25 years has profound and lifelong effects, which often only manifest in later years of life (Soul City Institute for Social Justice, 2019). Substance use leads to adolescents not knowing how to deal with the confusing feelings they experience (National Institute on Drug Abuse, 2015). The human brain promotes repetition of those experiences that make a person feel good again and again (DrugRehab.com, 2020). The dopamine in the brain is thought to be responsible for possible addiction. The positive feeling of pleasure from being high, triggers the intensity of the desire for more of the drug as opposed to other things enjoyed, such as food, school and hanging out with family, which consequently give him/her less pleasure (DrugRehab.com, 2020).

Literature suggested adolescents initiate substance use firstly because they often feel they are indestructible (Hobson, 2015), and are willing to take certain risks since they believe that nothing can happen to them. This is one of the reasons they give for their

use of drugs, but they also indicate they use drugs for stress relief, enjoyment, and to enhance their performance at school (DrugRehab.com, 2020).

Secondly, they are being peer pressured. Literature suggests resisting pressure to take substances is difficult when surrounded by peers who are using drugs, and that encourages behaviour and actions they never would do otherwise (Brook, et al., 2004; Onrust, et al., 2016). Third reason reported is experimenting. A curious adolescent may try drugs as an experiment. Many addicts experiment with alcohol and cannabis first but end up addicted to cocaine, prescription drugs, or even crystal meth and heroin. Fourthly, is the availability of potentially addictive substances. Prescription drugs, street drugs, nicotine, and alcohol are always available and can be bought or attained easily. These substances can be obtained from local dealers and over the counter.

Lastly, some substances are legal and socially acceptable; nicotine and alcohol are legal and considered socially acceptable, although they have addictive properties that are not largely understood. In South Africa, cannabis was decriminalised in September 2018. Adults can cultivate cannabis in their homes, in their private spaces and in the absence of children, for personal consumption (Constitutional Court of South Africa, 2018). The legal substances are considered the most commonly abused drugs not just in South Africa, but all over the world (Kaminer, 2013). One of the concerning issues that contributes to substance abuse is the change in leisure-related participation in adolescents as they move away from childrelated activities and explore their occupational identity and become involved in activities that prepare them for adulthood (Knudsen, 2004).

2.3.4 Indications of substance use in Adolescents

Normally, someone involved with substance use can function well without difficulty most of the time, however, signs accompanied by habits, personality and behavioural changes must guide and alert parents, teachers and other adults that the adolescent needs help (American Psychiatric Association, 2013). Therefore, detection of abuse early in the process and intervention are critical if the situation is to be remedied (DrugRehab.com, 2020).

In order to implement this, educators need to be vigilant and sensitive to any indications of substance use promptly. Some reported warning signs, for example, are quivering hands, unexpected weight loss or increased appetite, or declined need for sleep, dilated pupils, reddened eyes, stumbling or awkward movements, and use of incense or air freshener to disguise the smell of cannabis. There are also other warning signs, such as memory lapses or "blackouts" and in the final stages of substance use the lack of or little pleasure from the drug or alcohol even though the person is unable to stop using (United Nations Office on Drugs and Crime, 2018). Mostly, the dominant and universal sign displayed by some individuals using and abusing substance is that of rejection and a denial to admit they have a problem (DrugRehab.com, 2020).

2.3.5 Consequences of substance use in adolescents

Use of any substance for altering the mood can result in both physical and psychological dependence, and this form of harmful pattern is defined as substance abuse (DrugRehab.com, 2020). Substance abuse or dependence leads to instability of mental, emotional, biological, physical and social status, and affects the economic status of both the individual and community (Grant, et al., 2003). The major danger of substance abuse and the increasing effect on society result from the effect on each individual who abuses substances. The line between the regular use of substances, substance abuse and addiction is small and the danger of substance abuse resulting in addiction is high (Hobson, 2015).

Younger individuals are more vulnerable to the effects of drugs as they have lower abilities of physiologically and psychologically handling the impact of these substances (Fairbanks, 2017). The brain is still developing in teenagers and they are at risk of permanent intellectual and emotional damage if they abuse drugs or alcohol (David, et al., 2003). The consumption of alcohol in adolescence has been associated with the disruption of the endocrine system, which regulates mood and reproductive processes. It has been found that teenagers who use cannabis have a poorer performance on tests of learning with effects in terms of their memory (National Institute on Drug Abuse, 2010). In addition to these consequences, it is evident that teenage users have other problems, including difficulties with academia and problems with their physical mental health, including depression and anti-social behaviour, which affects peer relationships (National Institute on Drug Abuse, 2010). Parents report their family relationships are

also affected (Neiderhiser, et al., 2014); substance use by youths often results in crises in their family and can jeopardise family life in many ways (Hobson, 2015).

The most common long-term results of substance use are paranoia, anxiety, depression, and a longer period of addiction adds to the strain and stress on the individual, with different substances manifesting different effects (United Nations Office on Drugs and Crime, 2018). Common effects of cannabis use, for example, affect both the attention span, as well as memory and learning, resulting in poor performance in activity participation and possible cognitive impairment, demotivation, suppression of the immune system, and lung and cardiac complications (United Nations Office on Drugs and Crime, 2018). In addition, with prolonged use, a cannabis-induced psychosis may occur (Fairbanks, 2017). Cannabis use has been linked to increased risks for psychiatric conditions, including anxiety, depression and schizophrenia, as well as the abuse of other substances resulting in further addictions (Fairbanks, 2017).

Another complication of substance use is that it may result in further poor judgement and impulsive behaviour (Netcare News, 2018). The chance of contracting HIV and other STI's is one of the risky sexual behaviours to which alcohol abuse contributes (Ndondo, 2018), Other sequalae include liver disease and possible cognitive and memory disorders, while other opioid-based drugs, including morphine and heroin, may result in death or other severe complications associated with accidental overdose (Peltzer, et al., 2010). It is reported that the risk of developing a mental disorder in can be increased by drug abuse (David, et al., 2003; National Institute on Drug Abuse, 2015). However, physical damage, especially to the organs such as the kidneys, liver, heart and lungs, can also be affected by long-term drug abuse, and the risk of overdose and even death (Recovery Direct, 2018).

Research by Wegner has suggested that substance abuse is a product of boredom, especially if adolescents have limited leisure opportunities in their community. She further states that substance abuse elevates the feelings of boredom due to occupational deprivation and imbalance in the impoverished environments, leading to leisure being an occupational concern for adolescents, as the free time is challenged (Wegner, 1998; Wegner, 2011). Through assessing and monitoring learner's daily activities and the time they dedicate to healthy activities versus destructive activities might lead to better results, as learners will be aware of their time use and the benefits

of positive use of time and the way substance abuse affects their activities profile (Wegner, 1998; Wegner, 2011). The goal of the programme's implementation was to enhance person-centred occupations and maintain healthy lifestyles in providing support for MGCHS learners using substance. The overall outcome of occupational therapy is to improve the wellbeing of individuals within their occupations (American Occupational Therapy Association, 2014).

The literature reviewed has highlighted that adolescent substance use and abuse is a critical public health problem in South Africa, as it is in many parts of the world. The exact prevalence of adolescent substance use in South Africa is unknown but figures from treatment centers suggest it is high. The critical physical, emotional and social changes associated with the adolescent stage of development makes them vulnerable to substance initiation, and substance use and abuse for both short and long periods cause considerable occupational dysfunction which may have lasting effects. Dagga has been found to be the drug of choice of South African adolescents because it is accessible and cheap, and use of dagga has been reported to overcome the boredom of occupational deprivation in under-resourced environments associated with low socio-economic conditions.

2.4 Treatment of Substance use

Although abstinence from drug use is critical, treating adolescents for substance use requires a holistic approach to aid the learner with changing behaviours to maintain health (Stoffel & Moyers, 2004). The publication by NIDA (2014) encourages legal intervention and sanctions of family pressure to be implemented in order to mandate adolescents for possible treatment, as this has been proven, by research, to work, even when adolescents entered the rehabilitation process unwillingly (National Institute on Drug Abuse, 2014). A multidisciplinary team, including an occupational therapist, has been effective when treating adolescents using and abusing substances (National Institute on Drug Abuse, 2014). Workshops and training in education settings, such as schools, colleges and universities, has also been found to be effective in increasing awareness and encouraging advocacy by social influence on prevention of substance use and dependency (Gaffar & Deeba, 2017).

2.5 Models and Frames of Reference used in the Occupational therapy approach to intervention for substance use

Occupational therapy interventions, in which participation in occupation is mandated to achieve goals related to performance. These occupations are used to establish or remediate client skills and body functions, promote health, or prevent dysfunction, and can be considered as occupation-based compared to more didactic interventions, which include skills training, whereby performance of the actual occupation is not required (Gray, 1998; 2014; 2018). These interventions are not used in all occupational therapy interventions even though the conceptual foundations of the profession advocate the use of participation in occupation to facilitate the outcome of therapy, which is health and wellness. Gray (1998; 2014; 2018) has suggested that the profession has shifted away from the use of occupation in providing treatment and has moved to the treatment of components causing dysfunction, thus using a reductionist approach. In Gray's words more commonly, "clients' underlying problems are identified, and therapists select exercises specifically geared toward improving strength, range of motion, coordination, visual perception, problem solving, balance, attention, and so forth" (p. 355).

In this study, Kielhofner's Model of Human Occupation was the occupational therapy model used to frame the development of the experimental programme, and the stages of change of the trans-theoretical model, by Prochaska et al., was used as frames of reference. To understand the human side of the adolescents in this study, the researcher used the MOHO, which guided the researcher throughout the intervention process, in assisting with the assessment of the learners' performance, taking the context into account. These therapeutic interventions include "establish/restore," "alter," "adapt," "prevent" and "create," with intervention occurring at the individual, environmental, and/or activity level. This intervention should be a collaboration between the client, their family or support system and the therapist so that the client's occupational performance can be enhanced (Bronfenbrenner, 2009). The researcher used a cognitive approach, in terms of addressing assertiveness training, problem solving skills, and improvement of self-image, whilst using the behavioural approach to address acceptance and approval by others, conduct rules set by the learners and implement universal ethics. The psychodynamic approach guided the researcher towards interactively assisting the adolescents to overcome

their egocentrism. The psychoeducational and observational intervention approaches were implemented in learning sessions and through recording behaviour observed during activities engagement (Crouch & Alers, 2014) (Schell & Boyt, 2014).

2.5.1 Model of Human Occupation

The Kielhofner's Model of Human Occupation (MOHO) was chosen as the occupational therapy model to frame the development of the group occupational therapy for Grade 8 and 9 learners with a history of using and abusing substances. In addition, MOHO assisted the researcher in gathering and analysing the relevant data and to draw a conclusion on whether the occupational therapy intervention was of success in minimising substance use or not (Kielhofner, 2008; Dietz & Schriber, 2017). According to Kielhofner (2002), "human occupation refers to the doing of work, play, or activities of daily living within a temporal, physical, and sociocultural context that characterizes much of human life" (Kielhofner, 2017; Seymour, 2016).

2.5.2 Trans-theoretical model: Stages of Change

The trans-theoretical model includes the stages of change, the process of change, and ways to measure change. It is called the "trans-theoretical model" because it integrates key constructs from other theories (Dupont, et al., 2017).

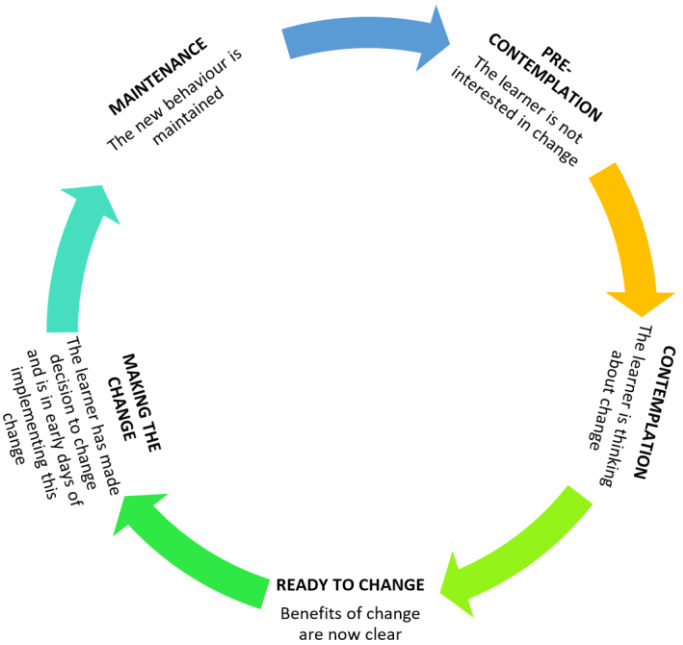

Figure 2.1 Stages of change adapted from Prochaska et al. (2013)

Prochaska and DiClemente (1992) developed the model of practice to assist individuals who wanted to stop smoking. Research indicated that the model could be successfully used for harm reduction with those who abuse substances (Prochaska, et al., 2015) and other bio-psycho-social problems, which may include child, abuse, domestic violence and HIV prevention, (Prochaska & Prochaska, 2009; (Prochaska, et al., 2015).

The Stages of Change assumes that behaviour change happens gradually and occurs in stages (Prochaska, et al., 2015). It was found that, these changes of behaviour are not progressive and do not happen in a linear way. It must be understood that substance use is considered a relapse prone, health-related disorder and the stages of change may fluctuate during the intervention. The stages of change can be used as a guide to occupational therapy interventions and the stages will determine the type and level of intervention relative to the change process to improve the effectiveness of the intervention. In relation to substance use and abuse, processes have been developed for each of the stages of change, to assist the progress through each stage. Intervention programmes for clients who are in the Action Stage (Making the Change) are those most commonly utilised in drug and alcohol treatment programmes. This does not normally apply to clients admitted to treatment centres as they are usually in the first three stages of change, and need to move through these before interventions that are designed in relation to the Action Stage can be of any benefit to them (Connors, et al., 2013).

The stages of change are supported by research on behavioural adaptation (or behavioural change) in the form of a meta-analysis, which examined clients' pre-treatment stage of change and intervention outcomes in 39 studies that reported on 71 separate outcomes (Norcross, et al., 2011). The meta-analysis indicated that "the amount of progress clients make during treatment tends to be a function of their pre-treatment stage of change" (Norcross, et al., 2011, p. 147). These findings emphasise the importance of assessing the client in relation to the stages of change and identifying

their change stage before starting treatment. The authors also reported that no statistically significant difference was found for adolescent and adult populations or ethnicity in terms of pre-treatment stage of change and outcomes change. This indicates the Stages of Change Model is suitable for use with most clients, irrespective of their demographic background. The trans-theoretical model's stages of change can be used to assess a clients' level of motivation, and positive change is most likely produced by the individualised, stage specific behavioural and psychological interventions (Sachdeva, 2019). In cannabis use, the stage of change a person is in does not mediate the effect of the intervention change (Dupont, et al., 2017).

The proposed occupational therapy programme was guided by the Stages of Change, especially that of health-related behaviour (Sanderson, 2004), and used, as allowed, for the incorporation of an occupationally embedded intervention for learners identified with substance use at MGCHS.

Change is part of life and since few changes are under the control of the individual, it is unavoidable. However, intentional change is possible, and this includes behaviour, thoughts, feelings and habits. Change that follows a controlled and predictable course has been reported for those who achieve successful self-change. The Stages of Change can guide intervention by knowing what stages the individuals are in, so their problems can be addressed. Even if they were not ready to act, it is possible to start the change process. Individuals can participate in new occupations and learn new skills, enhancing their self-sufficiency to avoid relying on substances as a solution, thus build their self-confidence to address problems in the future (Prochaska, et al., 2010).

2.6 Occupational therapy intervention for adolescents with substance use

Literature reports that occupational therapy can assist adolescent substance users to recognise how their use of substances affects their state of health and well-being, as well as the life roles that are most meaningful and assist them to move toward achieving appropriate occupational roles and patterns (Stoffel V. C. & Catana, 2010). Occupational therapists use relevant purposeful and meaningful occupations as the primary means of achieving aims related to participation and performance. This may include using activities to develop or re-establish body functions, performance skills,

while promoting health and preventing dysfunction (Peltzer, et al., 2010). Occupational therapy practice clearly remains focused on supporting the client's active and meaningful participation in daily life activities (American Occupational Therapy Association, 2014). Whiteford states that human beings are most true to their selves when they engage in activities or occupations, as these are not just something nice to do, but rather engages the human brain in activity (Whiteford, 2010). When people are deprived of this opportunity, this is referred to as occupational deprivation. According to Whiteford, to understand occupational deprivation and other occupational phenomena, they have been relatively framed within the occupational therapy profession in their respective relationships to health and wellbeing of an individual (Whiteford, 2010). Adolescents using substances tend to neglect most of their occupations as they seem preoccupied with the thoughts of how to get the next fix (Pluddemann, et al., 2002; Morojele, et al., 2013).

2.6.1 Role of Occupational therapy in Substance use

A multidisciplinary approach has been proposed to be the effective means of treating individuals suffering from substance use (National Institute on Drug Abuse, 2014), however, there is sparse literature on the specific role of the occupational therapist and the treatment of substance use. In the United States of America (USA), Thompson (2007) reported that occupational therapists providing intervention for individuals with substance use disorders are declining, and it is rare that they are part of the addiction treatment team. Wasmuth (2015) conducted a systematic review and found that in the treatment of individuals experiencing substance use the most frequent areas addressed were those of occupation, particularly leisure and social participation, clearly two areas of occupation that fall within the Occupational Therapy Practice Framework: Domain And Process, third edition (Wasmuth, 2015) (American Occupational Therapy Association, 2014). The findings from the systematic review also indicate marked occupational disruption in individuals seeking intervention for substance use. Furthermore, the American Psychiatric Association (2013) indicates a lack of meaningful occupation in daily living in individuals suffering from substance use is of concern. Thus, the exclusion of occupational therapy in the treatment regimens for these patients is professionally disturbing.

An occupational therapy study conducted in Eastern Kentucky, in the USA, also reported the negative impact that substance use has on occupational functioning, supporting the valuable role of occupational therapy in treating individuals recovering from substance use and addiction (Stone, 2017). Burson et al. (2010) concurred that service provision, in which occupational therapists work collaboratively in teams with other professionals, will be improved for clients experiencing occupational dysfunction due to substance use.

It has been reported that those adolescents with substance use disorder and addiction may have issues with constructive use of time and time management, whilst having problems with fulfilling major life roles that affect the individuals' activities health (Cynkin & Robinson, 1990; Lander, et al., 2013). One of the areas of expertise of an occupational therapist is that of activities health, which has been noted as an area of deficit in persons suffering from substance use. Activities health is described as the state of wellness in a person's occupational life, which includes all every day activities in the areas of occupation (ADL, IADL, rest and sleep, education, work, play, leisure and social participation) (American Occupational Therapy Association, 2014) and occupational performance (Cynkin & Robinson, 1990; Lander, et al., 2013). For daily activities to be considered healthy, a person should engage in a variety of activities over a period of a week, and there should be a balance between different types of activities consistent with a person's age and stage of development. The experience of comfort and satisfaction in daily activities as well as a sense of social appropriateness in the occupational context, are also critical components of activities health (Cynkin & Robinson, 1990; Lander, et al., 2013).

During adolescence, an occupational identity develops as a component of the broader construct of identity, which is the sense of self as defined by self or others (Weigert & Gecas, 2003; Dingle, et al., 2015). The American Association of Occupational Therapy (American Occupational Therapy Association, 2014) describes occupational identity as a "performance" component shaped by context (environment and observers), and the individual presents or performs or creates his or her self-according to specific circumstances. In this way, the individual develops identity as a function of interaction with others. An individual, therefore is compared to being both a performer, as well as an actor in the world (Weigert & Gecas, 2005; Dingle, et al., 2015). Kielhofner,

conversely, describes occupational identity as “a composite sense of who one is and wishes to become as an occupational being, generated from the history of one’s occupational participation” (Kielhofner, 2008; p 106). The concepts of expectations and satisfaction with performance in activities as well as occupational roles and routine are related to occupational identity (American Occupational Therapy Association, 2014). An individual develops an occupational identity from the engagement with activities, including satisfaction and comfort experienced from the activities associated with life roles or interaction with others, maintaining a routine and meeting obligations and perception of the environment (Kielhofner, 2008).

According to Erikson, et al., adolescence is a time for experimentation and practice with one’s sense of identity (Rageliene, 2016). This is also true for the concept of occupational identity. Addressing these issues in adolescents has been shown to be a buffer for substance use (Dumas, et al., 2012).

Literature suggests that an occupational therapy intervention programme should assist participants to identify their substance use behaviours and the consequence of these on their life roles and activities (American Occupational Therapy Association, 2014). Thus, the task of the occupational therapist is to enable clients to re-construct the lost roles, regain purpose and meaning in their daily occupations without the use of substance (American Occupational Therapy Association, 2014). To achieve this, Stoffel and Moyers (2004) propose that the occupational therapist needs to help adolescents find alternative activities that are meaningful and with just the right level of challenge to help them redesign their lifestyle without substances (Stoffel & Moyers, 2004). This was supported by Wegner and Flesch (2012) who postulated that through assessing and monitoring adolescents daily activities and the time they dedicate to healthy activities versus destructive activities, might lead to better results as they will become aware of their time use and the benefits of positive use of time, as well as the way substance use impacts balance and productive time use in their activities profile (Wegner, 1998; Flesch, 2012). In addition, the “lost” roles in which they once were capable, should be re-established and an improved state of well-being or activities health facilitated for long-term recovery (Cynkin & Robinson, 1990; Lander, et al., 2013). It has been suggested that occupations that emphasise self-control and problem solving are valuable and that decision-making skills training may be effective.

It is important when working with adolescents that the skills for the transition to adulthood should be considered as part of their developmental progression (Dumas, et al., 2012). The above was all incorporated in the study as to demonstrate occupational therapy intervention effectiveness in substance use (Wasmuth, 2015). This study reviewed the literature regarding occupational therapy group interventions and presented a new conceptualisation for occupational therapy group intervention that distinguishes between the types of group interventions available worldwide. This conceptualisation encouraged the use of therapeutic factors and group processes that brought about change in the groups' participants and provided a definition for group interventions that do not address the specific processes taking place in the group. The researcher focused primarily on the individual members' needs and goals, and thereafter on the intra-group discussions and interpersonal interactions that occurred during the group's sessions (Ben-Naeh, et al., 2014).

2.6.2 Occupational Therapy Group Programme

The programme's goal is to enhance person-centred occupations, which result in behaviour change according to the stages of change model (Flesch, 2012) to adopt a healthy lifestyle by not using substances. An overall goal of occupational therapy therefore is to improve the activities health of the individuals. The group occupational therapy programme included both individual and group activities, both task-centred and socio-emotional (Crouch & Alers, 2014). The end-product is vital to support personal causation and the fragile self-esteem. Crouch encourages group therapy when dealing with adolescents; she states that this is vitally important as it is of choice for adolescents as their interpersonal relationships are the most dysfunctional (Crouch & Alers, 2014). Groups form through a combination of personal, situational, and interpersonal processes (Forsyth & Burnette, 2010). In this study, the group formed was adolescents who were learners using substances. According to Forsyth and Burnette, some people are more likely than others to seek the company of others and when they do, a group is born. They further elaborate that groups likewise occur through deliberate planning, or when the press of environmental circumstances brings people together, recurrently, and these associations ignite attractions (Correll & Park, 2005) (Forsyth & Burnette, 2010).

Occupational therapy group intervention is the combination of structured, adapted group processes and tasks, or a set of activities aimed at fostering change and adaptation in people with acute or chronic illness, impairments, or disability (Schell & Boyt, 2014). A current occupational therapy group consists of more than simply two or three people doing solitary activities in the same room. The use of group treatment in occupational therapy is often mistaken as primarily restricted to practice in mental health, or to the treatment of children or the elderly. Individual treatment is fast becoming viewed as a luxury as practitioners move toward interdisciplinary group treatment models that are more cost-efficient and capitalise on the therapeutic properties of groups (Marmer, 1995; Morris Andreassi, & Lichtenberg, 1994) (Schell & Boyt, 2014).

In a study in Western Cape Province, Wegner, et al. (2015) state that occupational therapy intervention with substance use disorders should focus on lifestyle and behaviour change using mainly group work (Wegner, et al., 2015). The study by Wegner et al. state that occupational therapists who use group work should use therapeutic factors integral to groups, which allows for instillation of hope, universality, identification, altruism and interpersonal learning in order to facilitate the desired change in behaviour as per the goals for each group member (Wegner, et al., 2015). The study further discussed that the facilitation of personal change through occupational therapy aims to enable group members to recognise their problems and the consequences of these, as well as the need for help, and focus on constructive solutions to the problem to improve their everyday function and lives.

As occupational therapists working with every individual with any occupation challenged areas, we assist individuals to enhance their optimal functioning, independence and positive living. It is not easy to intervene with the purpose of changing individual's behaviour and routine due to self-will and thinking being souldriving desires of such human being. The theory encourages us to focus on roles, identity, environment, persons' occupation and interests to overcome such humanity and lead to effective living (Kielhofner, 2006).

To verify how and why the profession of occupational therapy provides the kind of intervention it does, needs evidence-based research, as elaborated by Wegner, et al. (2015). Therefore, the current study's purpose was to gather empirical evidence to

evaluate the group occupational therapy programme designed specifically for the learners who abuse substances, which was the new component in the multidisciplinary substance use programme used at the school. Occupational therapists are experts in running therapeutic groups as they are trained in analysing activities to engage in, in group settings, and making them more relevant to the group of people that are being treated (Schell & Boyt, 2014). Group interventions are encouraged as they seem to be more cost-effective, and fight a bigger problem in a small space, whilst helping a larger group of people, with more chances of success (Crouch & Alers, 2014).

2.7 Summary

Thus, the task of the occupational therapist is to enable patients to re-construct the lost roles, regain purpose and meaning in their daily occupations without the use of substance. To achieve this, Stoffel and Moyers (2004) propose that the occupational therapist must assist clients to find alternative activities that are meaningful and with just the right level of challenge to help them redesign their lifestyle without substances (Stoffel & Moyers, 2004; Dietz & Schriber, 2017). In addition, the “lost” roles in which they once were capable should be re-established and an improved state of well-being or activities health facilitated for long-term recovery (Cynkin & Robinson, 1990; Lander, et al., 2013).

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter describes the methodology used in this study to test the null hypothesis that an occupational therapy group programme developed specifically for Grade 8 and 9 learners who had a history of substance use at MGCHS in Cradock would have no influence on their behaviour at school, their academic performance, or their activities health. Since this study examined the development of an occupational therapy programme, this was an appropriate design.

The study occurred in two parts and followed the Steps for programme development described by , as set out in Fraser and Galinsky (2010) (Table 3.1).

Table 3.1: Steps for programme development

PART 1
Step 1 Problem and programme theories
• Define theory of human occupation
• Identify intervention for behaviour, academic achievement and activities health outcomes
• Confirm stages of change
Step 2 Specify program structures & processes
• Design an intervention strategy target audience, facilitator, intervention strategy
• Specify essential programme elements
PART 2
Step 3 Confirm the efficacy of the programme
• Implementation with target group
• Assess changes in behaviour and academic performance
• Establish difference in activities health for group who did and did not receive the programme
• Suggest adaptation based on findings

3.2 PART 1. Development of the Programme

Part 1 considered the first two steps, which influenced how the programme was developed. The research design incorporated a description of the theory underlying the programme, constructs on which the programme was based and the development of the essential elements of the programme to be implemented (objective 1).

3.2.1 STEP 1: Problem and Programme Theories- Human Occupation and Stages of Change

The first step in Part 1 of this study was the development of the occupational therapy intervention programme for the Grade 8 and 9 learners identified with the history of using and abusing substance. Kielhofner's Model of Human Occupation (MOHO) (Kielhofner & Forsyth, 2008) as well as the Model of Change (Prochaska, et al.2015) were used to frame the programme, as the outcome of the programme was to influence the learners' occupational performance, particularly school performance, behaviour and activities health, an outcome co-created with the group participants.

3.2.1.1 Defining Human Occupation

As can be seen in Table 3.1 the first requirement of this first step was to define human occupation relevant to the development of this programme. Human occupation is a central concept in the occupational therapy profession (Kielhofner, 2008). Human occupations are defined as the everyday activities that individuals want to and must do in the contexts in which they live, and which occupy time and contribute meaningful purpose to their lives (American Occupational Therapy Association, 2020). How people engage in their daily occupations contributes to 5 their health and well-being (American Occupational Therapy Association, 2020).

Substance use is known to disrupt the pattern of daily activities as much time is used in searching for substances and then using them (Glanz, et al., 2015). The nature of the substances used also interferes with the productive engagement with daily activities in the case of adolescent learners, achievement of appropriate scholastic outcomes and healthy social engagement demonstrated through behaviours at home and at school (Mrug, et al., 2010). Both these factors have a negative influence on the learners' activities health resulting in loss of previously valued activities and

changes in age related occupational development, especially occupational identity(DrugRehab.com, 2020).

Kielhofner's Model of Human Occupation (MOHO) is a well-researched occupational therapy model (Owen, et al., 2014). The model uses a systems approach to describe how humans generate and modify their occupations in interaction with environment, which presents as dynamic open cycle system of human actions (Kielhofner, 2006). See Figure 3.1 The internal part of system consists of three subsystems: Volition, Habituation, and Performance. Volition subsystem initiates one's action, and consists of three components. First, Personal causation is one's sense of effectiveness and confidence on performing action, having strong or weak sense of effectiveness in mastering themselves and the environment. Second, Values relate to how a person determines the importance of various occupational behaviour. Third, Interests are one's intention to seek pleasure from a certain action, objects or events. The habituation subsystem maintains daily routine and action pattern, as well as the order of performing actions. It consists of two components: (1) internalized roles which guide one's automatic routines when acting as different productive roles and satisfy one's demands of social environment and volition; and (2) habits which are formed when one repeats certain occupations in his/her daily life and without a conscious decision. Lastly, performance subsystem generates occupational performance which results from the mind, body and brain interaction. After the interaction between the input and three internal subsystems, the system generates output (information and action), which provides feedback to the system that becomes new input. This influences occupational identity which is the composite sense of who one truly is and who one wishes to become as an occupational being (Kielhofner & Forsyth, 2008).

This model was selected for this study as it clearly defines the factors involved in one's occupational engagement and how this can influence one's ability to adapt and change critically in this programme (Kielhofner, 2008).

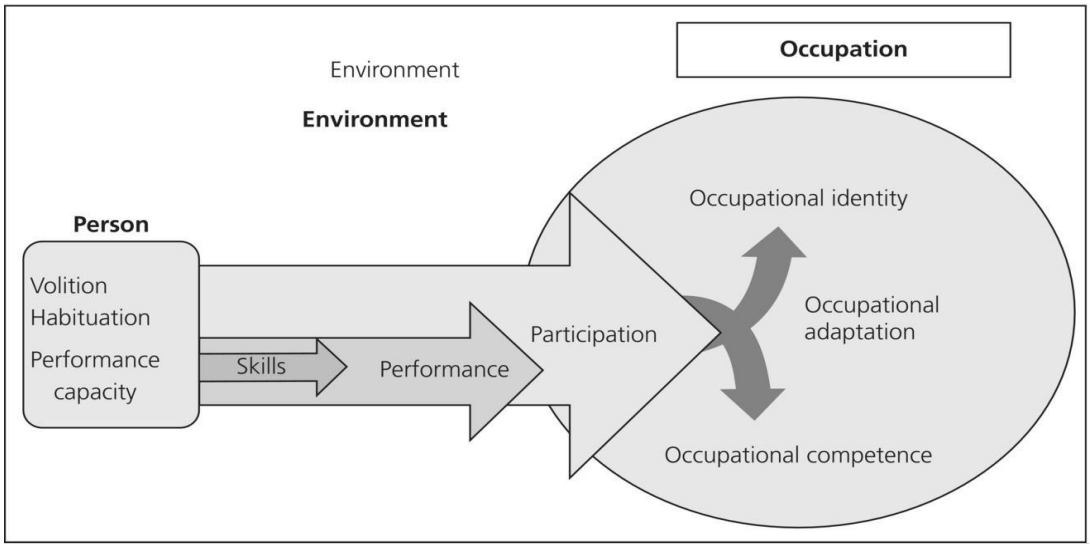

Figure 3.1 Model of Human Occupation (MOHO) (Christiansen, et al., 2015)

Change happens when positive experiences support the person's desire to explore, master and fulfil environmental demands (Kielhofner, 2008). Appropriate occupational choices, routines and skills promote behaviours that lead to increased organisation of the human occupational system. In contrast, a maladaptive cycle occurs when the person repeatedly experiences occupational disorganisation, poor performance, and anticipates future failure. Thus, poor occupational choices, poorly organised routines, and deficient skills lead to increased disorganisation in the occupational performance system and therefore can lead to further occupational dysfunction (Kielhofner, 2008).

While Kielhofner described the development of occupational performance within the adolescence age band, with respect to the subsystems of the model (Kielhofner, 2017), the researcher also considered the age band information in Erikson's Psychosocial Theory of Development as the learners were adolescents; the Identity versus Role Confusion stage (Erikson, 1994), which is consistent with the transition from boy or girl to manhood or womanhood respectively.

3.2.1.2 Intervention for behaviour, academic achievement and activities health outcomes

The second requirement of Step 1 was to identify intervention outcomes for this programme. Two variables were selected as critical outcomes for this programme by

the school authorities and teachers: appropriate behaviour within the school context and academic achievement sufficient to progress to the next level. A third variable, activities health, was added as the learners involved in the experimental group co-created the programme, which is the reason for this variable being evaluated at the end of the programme and not at the beginning as with the other two variables

3.2.1.3 Confirm stages of change

The third requirement of Step 1 was to confirm the stages of change (see Table 3.1). The decision to stop using substances is complex and is related to the dynamic interplay of personal, environmental and occupational factors. This decision is a process rather than an event (World Health Organization, 2018). The process is cyclical in nature with each stage characterised by critical learning processes and experiences that can both facilitate or retard the recovery process (Glanz, et al.,2015). For any programme to reduce substance use, the programme must take cognisance of these steps in the recovery process and plan for their inclusion in the intervention.

The stages of change, described as a Trans-theoretical Model, has been recommended for the treatment of substance use by Prochaska and Norcross, and was used as the frame of reference to systematically plan the group programme (Prochaska & Norcross, 2002).

The Change Model was developed out of addictions research and defines five sequential phases of behavioural change within the recovery from substance use (see Figure 3.2) (Prochaska, et al., 2013). In the design of the group occupational therapy programme, group tasks and activities were planned to assist the participants to identify with each stage and engage in activities, tasks and discussion to facilitate the achievement of each stage.

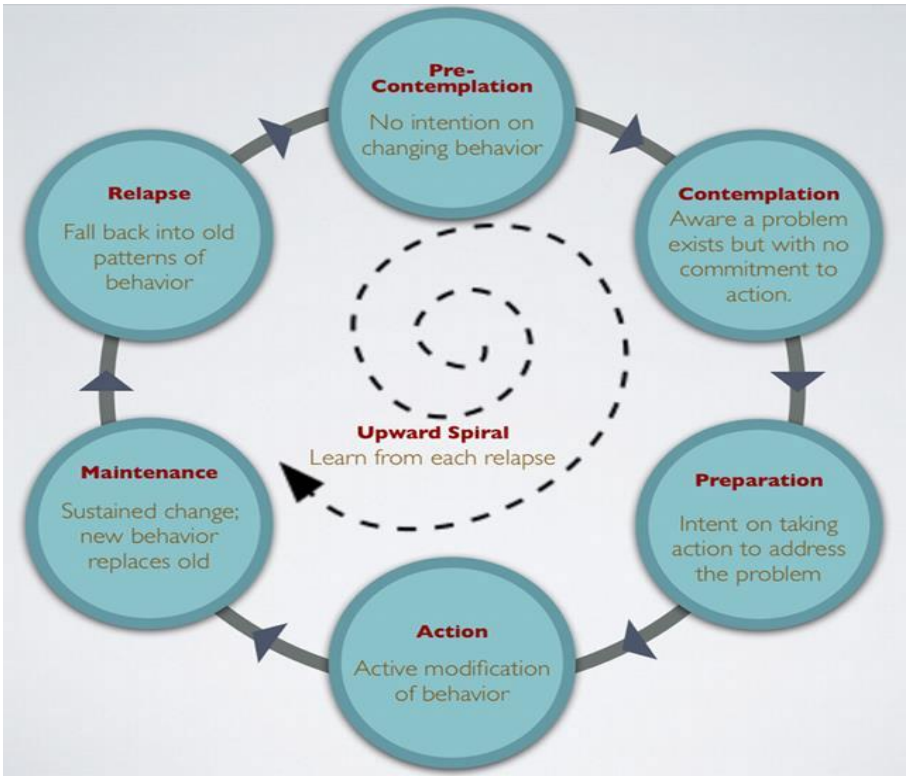

Figure 3.2 Stages of Change (Prochaska, et al., 2013)

3.2.2 STEP 2: Specify Programme Structures and Processes

3.2.2.1 Target Audience

The target population was a sample of learners at MGCHS in Cradock, in Eastern Cape Province, who had a been identified as substance users. The school has 470 learners, and of these learners, 120 were in Grade 9 and 160 were in Grade 8. Of the 280 learners in Grades 8 and 9, 45 (16%) had been tested and found to be positive of substance use. Due to the prevalence of substance use in South African schools, the Provincial Departments of Education implemented a protocol of random checking in 2013. Each school was provided with the drug test kit, and depending on the school schedule, the testing occurred either in the morning or during the day. The test was administered by the school principal or his delegate. Schools were required to keep accurate records regarding incidents of drug use and referrals for treatment. While the principal or delegate had the authority to start disciplinary proceedings at the school, no criminal proceedings were allowed against any learner (National Department of Education, 2013).

3.2.2.2. Facilitator

The facilitator was the researcher, who was a newly appointed occupational therapist in the Department of Education in the Eastern Cape. As part of her official responsibilities, she was tasked with the developing an occupational therapy programme that would address the problem of substance use in the schools in the Cradock district, commencing with MGCHS.

3.2.2.3 Intervention strategy

Considering the constructs of the MOHO and the steps of the Change Model, the development of experimental programme for the learners with substance use at MGCHS used the guidelines set out by Flesch for inpatient substance users (Flesch, 2012). The programme was designed to be informative, educational, therapeutic and entertaining to keep the adolescent participants actively engaged (see Appendix A). The design of the programme was for a period of six months with one-hour sessions per week after the close of school. There were a range of different activities planned for the preparation phase to address different areas of concerns, and these sessions used a therapeutic process and group process principles of Yalom (Yalom ID, 2005).

3.2.2.4 Essential programme elements

The factors stressed within the programme were communication and safety, education and learning, flexibility, objective thinking, creativity, reflection, assertiveness, rhythm, teamwork, strengthening and networking, attack and defence, playful and fun, meditating, relaxing, selective, repetitive, priority and reality acceptance, adolescents' empowerment (Grant, et al., 2003) activities health (Achenbach, et al., 2013) of and occupational identity (Rageliene, 2016) the learners.

Since there was an element of co-creation in the programme, a number of activities were chosen by the learners, such as drumming, dancing, sport-related and fun activities, and projective art and educational activities were incorporated by the researcher.

3.3 PART 2: Implementation of the Group Occupational Therapy Programme Designed for Learners with a history of Substance Use.

Part 2 addressed the third step of implementation and evaluation of the programme. This included the experimental pre-test post-test research design used, as well as the sampling techniques and sample size. The assessment instruments used, as well as the research procedure for the data collection and data analysis, which addressed objectives 2, 3 and 4, are presented.

3.3.1 Implementation of programme with target group

This was the first requirement of Step 3 (see Table 3.1).

The occupational therapy programme (see Appendix A) was implemented with the experimental group of learners for a period of six months, on a weekly basis during the school terms.

The learners were involved in the initial awareness building of the purpose of the programme (American Occupational Therapy Association, 2010), their participation in activities, their activity participation goals for the future and occupational identity in the pre-contemplation phase.

The goals of the programme were discussed and set with the learners, during the pre-contemplation phase. These were revisited as the OT programme continued consistent with each stage of change.

The facilitator took note of the literature suggesting that in group work, adolescents are likely to be preoccupied with themselves and not follow social norms in terms of communication; they tend to interrupt others and do not listen well. They may direct their attention to the group facilitator and demand attention, such as that provided in individual therapy. The therapist facilitating the group should use group facilitation techniques to encourage active listening and ensure others in the group respond to the group member instead of providing random responses about themselves (Crandles, et al., 2007).

The sessions followed the occupational therapy process using the group process principles of Yalom (Yalom ID, 2005). The group process principles used included universality, altruism, instillation of hope, imparting information, corrective

recapitulation of the primary family experience, development of socialising techniques, imitative behaviour, cohesiveness, existential behaviour, catharsis, interpersonal learning and self-understanding (Yalom ID, 2005). The prevention principles guided the occupational therapy group programme throughout. These prevention principles are used to enhance factors that are protective and for the reversal or reduction of risk factors in adolescents (Grant, et al., 2003). The programme addressed most forms of drug use, either alone or in combination, the use of legal drugs (e.g., tobacco or alcohol) before the age of 18 years, the use of illegal drugs (e.g. cannabis or heroin), as well as the use of legally obtained substances (e.g. inhalants), prescription medications, or over-the-counter drugs in an inappropriate way (David, et al., 2003). To improve the programme effectiveness, it was tailored to and addressed the risks specific to the substance used by the adolescents, in terms of their age and gender. In this experimental group, the programme's most prominent prevention principle considered improving academic performance and social competence. Study habits and academic support as well as communication, peer relationships, self-efficacy and assertiveness were all addressed. The programme also included drug resistance skills, reinforcement of antidrug attitudes and strengthening of personal commitments against drug abuse (Grant, et al., 2003).

During programme implementation, the researcher took responsibility for creating sustainable opportunities, making use of safe, affordable and accessible resources for use in the programme, raising awareness, strengthening existing initiatives and networking. The activities were sourced with the assistance of the social worker, teachers, participants and parents or caregivers, and included art work, drumming, educational and sport-related, all of which had a fun element. The educational component of the group programmes was to provide psychoeducation to participants (Gaffar & Deeba, 2017) about substance use and addiction, and help them gain intellectual insight into their substance-related behaviours (Crouch & Alers, 2014). The Vona du Toit Model of Creative Ability (VdTMoCA) assisted the researcher to establish the level of creative participation of participants during the group process to select appropriate activities, as well as how to grade performance based on expectations (De Witt, 2014). To understand the participants' perception of the value of the group occupational therapy programme, the participants were issued with the evaluation form to identify possible areas of improvement to the programme (see

Appendix B). It is vital to evaluate occupational therapy services that we render to clients, as this provides therapists with the extent of service delivered, client satisfaction level and room for improvement on approaches used for intervention (Schell & Boyt, 2014). This evaluation had no consequence to this study.

3.3.2 Assess changes in behaviour and academic performance and establish the differences in activities health between those who attended and did not attend the programme

A quantitative randomised control trial using an experimental design was undertaken to examine the effectiveness of a specific group occupational therapy programme for a known group of learners identified as substance users at the MGCHS in Cradock. A randomised control trial was the most suitable design for this study as it allowed the researcher to minimise allocation and selection bias between the experimental and the control groups, as well minimise confounding variables due to unequal distribution of prognostic factors making the two groups more comparable for both known and unknown factors Schumacher, 2013).

Randomisation allowed for the population to be divided so each participant had an equal chance of being allocated to either the experimental or control groups, as the prognostic indicators regarding the participants substance use were not known and could not be controlled in any other way (Schumacher, 2013). This design also allowed the researcher to examine the outcome of the group occupational therapy programme by measuring the experimental group participants' school performance before and after participation in the programme and behaviour before, immediately after and 6 months after involvement in the programme. Activities health was only measured at the end of the programme as this was an additional component, as some of the group programme content was co-created with participants. These results were then compared to the results of participants in a control group who did not attend the group occupational therapy programme. This methodology allowed the researcher to gain in-depth understanding of how substance use affected participants' school performance and behaviour, and if the programme had addressed activities health. The occupational therapy group programme used in this study was purposefully designed for the needs of this group of learners identified with substance use problems at this specific school, thus the results may not necessarily be generalisable to other groups of learners (Kielhofner, 2006).

3.3.3 Study population and sample

The use of purposive total population sampling was because the study population included all 45 Grades 8 and 9 learners, of MGCHS in Cradock, who had tested positively for substance use, using the drug test kit supplied by the Provincial Department of Education (Appendix D), and had been referred to the school's substance use support programme, which included groups run by the district social worker and psychologist. The group occupational therapy programme, developed in this study, was an additional component to the school's support programme, with the purpose of this research study evaluating if this should be extended to other schools in the district

Only the learners whose parents consented to their children participating were included in the study. An exclusion criterion would have been included if consent had been refused.

Once consent had been provided, the participants were divided into experimental and control groups. To avoid sampling bias, the researcher used simple random sampling so that participants were allocated to either the experimental or control group strictly by chance; to provide equal odds for every participant to be chosen in the study (Schumacher, 2013). The specific type of simple random sample used was the "Fishbowl" method (Donald, et al., 2010). The researcher assigned numbers from 1 to 45 to the list with each learner's name. The researcher cut out each name rolled it up and shuffled the pieces of paper in a fish bowl. The researcher randomly picked a folded paper and assigned names to the experimental group first and thereafter to the control group. While both groups attended the multidisciplinary substance use programme presented at the school, only the experimental group received the additional group occupational therapy intervention programme.

3.3.4 Measurement Tools

The following tools collected the data for this research from all participants in both the experimental and control groups.

3.3.4.1 Demographic Questionnaire (See Appendix E)

The researcher designed a demographic questionnaire specifically for this study. The information documented in this questionnaire included: age, gender, grade, a list of interests or activities engaged in, such as sport, watching television programmes. Other information included the number of people living at home, the participant's substance use (indicate with a 'yes' or 'no' on a list of substance commonly used), as well as if the participant had stopped using substances, indicating when, how and why (Appendix E).

3.3.4.2 Child Behaviour Checklist (6-18 years) Teacher Report Form (CBCLTRF) (Appendix F)

The educators' opinions of each learners' class participation, homework and behaviour, both in the classroom and in the sports grounds, were measured using the CBCL teacher report form (TRF) at three points in time: at the beginning, end of the study and approximately six to seven months later. This last data collection period, subsequent to the end of the group occupational therapy programme, was used as research and indicated that behaviour change is more gradual and occurs over time (Norcross, et al., 2011).

The Child Behaviour Checklist (CBCL), developed by Thomas M. Achenbach, in Burlington, Vermont, United States of America, is one of the most widely used standardised measures in child psychology for evaluating maladaptive behavioural and emotional problems in preschool subjects aged 2 to 3 years or subjects between the ages of 4 and 18 years (Achenbach, 2001). The Achenbach System of Empirically Based Assessment (ASEBA) offers a comprehensive approach to assessing adaptive and maladaptive functioning of children and adolescents. It is widely used in mental health services, schools, medical settings, child and family services, public health agencies, child guidance, training, and research (Achenbach, et al., 2013).

The CBCL is a part of the Achenbach System of Empirically Based Assessment (ASEBA). There are three parts to the CBCL: one aspect is completed by parents, and the two other components are the Teacher's Report Form (TRF) completed by teachers, and the Youth Self-Report (YSR) completed by the child or adolescent. This study used only the CBCL-TRF. This assessment tool is used internationally to assess youth and reported in 3,500 research articles across 50 cultures (Achenbach,

et al., 2013). The CBCL (6-18) is reliable and valid, with internal consistency between 0.72 and 0.95 and test-retest reliability between 0.60 and 0.96 for the subtests on the assessment. The CBCL (6-18) and CBCL-TRF/6-18 (original versions in English) have good test-retest reliability and internal consistency (Achenbach, et al., 2013).

This assessment is used to understand youth who are having difficulties, but can also be used to evaluate treatment outcomes. The CBCL-TRF (6-18) assists in assessing competencies, strengths, adaptive functioning, behavioural, emotional, and social problems of learners (Achenbach, 2001). The 113 items on the scale are rated by the teachers on a 3-point Likert scale from 0 (not true for the participant) to 2 (very true for the participant) and can identify problematic behaviour, including aspects such as mood, somatic complaints, aggressive and rule breaking behaviours, thought problems, social problems and attention and learning problems (Achenbach T. M., 2001).

The 113 items are organised into adaptive and behaviour functioning items. The adaptive functioning items of the CBCL-TRF (6-18) provide scores for the child's performance in academic subjects and four adaptive characteristics (dedication to school work, appropriateness of behaviour in school, ability to learn and happiness). The behaviour problem items provide scores for nine narrow-band scales or syndromes (I. Withdrawn, II. Somatic Complaints, III. Anxious/ Depressed, IV. Social Problems, V. Thought Problems, VI. Attention Problems, VII. Delinquent Behaviour, VIII. Aggressive Behaviour, and IX. Sexual Problems), and three broad-band scales (1. Internalising Behaviour Problems, that corresponds to the sum of subscales Withdrawn, Somatic Complains and Anxious/Depressed; 2. Externalising Behaviour Problems, that corresponds to the sum of subscales Delinquent Behaviour and Aggressive Behaviour; and 3. Total Behaviour Problems) (Achenbach, et al., 2013).

Furthermore, additional factor analyses of the CBCL-TRF/6-18 Attention Problems syndrome produced two subscales: Inattention and Hyperactivity-Impulsivity. For all the instruments of the CBCL, raw scores are transformed into T-scores, which indicate whether subjects present with deviant behaviours or deficient competencies in relation to norms for their age and gender (Achenbach T. M., 2013). Mean testretest reliability is 0.90 for the TRF adaptive functioning items (Achenbach, et al., 2013).

3.3.4.3 Current Academic Performance (Appendix F)

The participating learners' school progress was recorded by the teachers on the CBCL-TRF at the beginning of the study and again at the end of the study (Appendix F). Unlike the behaviour, the influence of the occupational programme on the academic marks was expected to be more immediate. The learners' academic performance results for each subject within that Grade were taken by the teachers from their school progress quarterly and annual reports (Appendix F). The CBCLTRF does not require the teacher to record the actual mark for each subject but to rate performance on a 5 -point scale:1, far below grade; 2, somewhat below grade; 3, at grade level; 4, somewhat above grade level; 5, far above grade level.

3.3.4.4 Activities Health Profile (Appendix G)

The determination of the activities health of all the participants was evaluated by the social worker at the end of the research process only, as this was a variable added during the programme as a result of the co-creation of the participants of the programme. The social worker collected this data so the researcher could not bias this assessment. This assessment was conducted individually with each participant in a semi-structured interview, as per the instructions found in Appendix H. The researcher had to train the social worker to administer the assessment tool; this included how to administer the assessment, step by step instructions were discussed, and an opportunity to practice administering of the assessment was provided prior to the social worker assessing the learners. Cynkin and Robinson developed the activities health assessment to be administered as either a self-report or interview questionnaire in 1990 (Cynkin & Robinson, 1990; Lander, et al., 2013).

The assessment was conducted in two parts:

In the first part, information was collected on what activities the participant routinely did in a 48-hour period on two days of the week (Monday and Friday) and a weekend day (Sunday). The data were collected on the two-week days where there was likely to be a difference in routine and a Sunday, which was likely to be the most unstructured day of the weekend. This was recoded on a table. In the second part of the assessment, the participants rated their perception of comfort, satisfaction and the social appropriateness of their activities using a visual analogue scale from 1-10 (VAS), with 1= low and 10= high.

The interpretation activities health assessment was finalised by the researcher. The week days and weekend day activities recorded by the participants were organised into the areas of occupation, also known as the categories of occupation, as described in the Occupational Therapy Practice Framework: domains and process 3rd edition (American Occupational Therapy Association, 2014). This was then used to construct an activity profile as a pie graph, which described the different categories of activities an individual does over 24 hours as a percentage. To determine the balance of activities, the percentage-time spent on activities in the different occupational performance areas (personal and instrumental activities of daily living, social participation, school or education, sleep and leisure), personal management, home chores, substances use and free time activities were calculated according to time (hours) spent in activity and percentages in relation to the Linkert scale point given by the participants. The percentage of each occupational performance area was calculated and then compared for both the week days and the weekend (Achenbach, et al., 2013).

The number and variety of activities in each occupational performance area were calculated using the total number of different activities engaged in and time spent on week days and weekends for areas other than sleeping.

Satisfaction and comfort were scored on a typical 10-point VAS, where below five indicated different levels of dissatisfaction and discomfort, while those above five indicated different degrees of satisfaction and comfort.

The social appropriateness of activities was recorded in a similar fashion. The participant rated their own perception of the social appropriateness of their activities, as well as their perception of that of the significant people in their lives. Again, scores below five on the VAS indicated perceptions of low levels of socially appropriateness with their activities and scores over five indicated higher levels of perceived satisfaction.

Although this tool has been used in several studies, there is the lack of research on psychometric properties of this assessment tool. However, due to its descriptive nature the assessment does allow for evaluation of a change in activities and use of

time as well as how meaningful activities are to the individual, and therefore suitable for this study.

3.3.5. Research process

The collecting of data for this study occurred during 2018 and early 2019. After receiving approval and permission to undertake the study (See Appendices H, I and J), a meeting was held with the parents of the identified learners to explain the purpose, nature and requirements of the study. The researcher sent a letter of request to the school (See Appendix K) and the school principal gave permission to proceed with the research (See Appendix L). The parents were provided with the approved information letter (Appendix M) and a consent form (See Appendix N) to sign if they agreed to their children's participation in the study. Those learners whose parents gave informed consent, were invited to participate. The learners who gave witnessed assent were included in the study. The learners also received information sheets and asked for signed assent (Appendix O and P).

Teachers of Grade 8 and 9 learners were invited to participate in the study and given the approved information letter outlining the purpose of the study; they were also required to give consent (Appendices Q and R). The approved information letter outlined the purpose of the study as well as the participation that required them to complete the CBCL-TRF on each participant at the start and end of the intervention programme. Due to the possibility that a behaviour change would not be seen immediately after the intervention programme, they were also asked to complete the CBCL-TRF again on each participant six to seven months later. They were also required to record the participants' academic progress on the prescribed section on the CBCL-TRF (Appendix F). At the start of the study, the researcher assisted all participants to complete the biographical questionnaire. The learners were then randomly allocated to either the control or experimental groups using the fish bowl method (Donald, et al., 2010). Since all initial data collection occurred prior to the division of the participants into the experimental and control groups, teachers and the researcher where blinded to the group allocation. This gave every learner an equal chance of being in the experimental group and ensured fairness and transparency in the group delegation process (Ben-Shlomo, et al., 2013). All participants continued with the school MDT substance use programme, including individual and group

counselling by the social worker and psychologist when available to assist the learners to deal with their problems. Only the experimental group participated in the group occupational therapy programme developed by the researcher for this study. This intervention took place over a six-month period, one afternoon per week during the school term. At the end of the study period, all participants completed the Activities Health Assessment individually in a semi-structured interview with the social worker. Teachers completed the CBCL-TRF at the end of the study and again six months later, but did not collect academic performance at this last data collection period.

3.3.6 Ethical considerations

The study protocol was approved by the Faculty Graduate Studies Committee and Human Research Ethics Committee (Medical) of the University of Witwatersrand; the latter committee provided the ethical approval for this study (M171044) (See Appendix H). Permission to access the school information was acquired, both verbally and in writing from the Eastern Cape Department of Education (See Appendices I to K). The principal of the school was also asked to give permission. The information sheet for the teachers and the learners' parents was discussed with them and signed consent obtained. The learners also received an information sheet and asked for signed assent.

As the researcher conducted a clinical trial, the following ethical principles were considered and practised throughout the occupational therapy group programme: autonomy, justice, beneficence and non-maleficence, and confidentiality (American Occupational Therapy Association, 2015).

The researcher informed the participants of their rights during the research study to give them autonomy. Their right to participate in the study and withdraw at any time without any consequences was explained. They were also reminded they could decide to contribute to or refrain from contributing and engaging in certain topics during the group discussions and group activities. Justice was upheld throughout the research project as the researcher was fair and treated all participants equally. There was no discrimination against or judging of the participants during the study; this involved avoiding using discriminatory language and references to personal characteristics, such as age, race, gender. The researcher had an obligation to anticipate and to weigh both the benefits and the potential harm that might occur in

the study (American Occupational Therapy Association, 2015). The researcher ensured the participants' confidentiality and privacy were respected and honoured throughout the research study, as initials and codes were used instead of full names.

3.3.7 Data analysis

All data were transferred onto Excel spreadsheets for analysis. Descriptive statistics (percentages) analysed the demographic information, and the demographic data for the groups were compared for significant differences using a Chi-squared test. Means, ranges and frequencies were used.

Data on the CBCL-TRF and the academic progression for each group (experimental and control) were analysed using Wilcoxon Sign rank tests to determine what changes occurred post intervention. The CBCL-TRF scores were compared to those collected six to seven months later.

The initial comparing of the between group data for the CBCL-TRF was to determine if the groups were comparable, and then at the post intervention and six months later to determine if the occupational therapy programme made a difference using the Mann Whitney U tests. In the current academic performance section, all nine subjects taken by the participants were included in the analysis of the academic results compared pre- and post-intervention. As the sample was small and data were ordinal and not normally distributed, the researcher used non-parametric statistics.

Data from the activities health assessment post intervention were analysed descriptively using percentages for two-week days and a weekend day. These two days of the week were chosen due to similarity of activity engagement during the five days of the week, equally so, with the weekend. The analysis of comfort, satisfaction and social appropriateness data relating to activities health used 2 descriptive statistics.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter reports on the results of part II of steps for programme development described by Fraser and Galinsky (2010), as set out in Table 3.1. Step II thus reports on the results of the clinical trial to evaluate the effectiveness of a group occupational therapy programme for Grade 8 and 9 learners with substance use at MGCHS in Cradock (objectives 2, 3 and 4).

Initially, the population of participants will be described followed by the before and after within group results of both the experimental and control groups for CBCL-TRF and their academic performance based on pre- and post-intervention scores as well as scores obtained six to seven months after the intervention was completed. The between group results, which consider the change of scores on the CBCL-TRF at the same three points in time for the two groups as well as the difference in the participants' academic progress, is presented as required by objective two. Finally, the activities health results, which assessed post intervention time use will be reported for each group and then the difference between them, as required by objective three.

A total of 45 learners participated in the study, 22 in the control group and 23 in the experimental group. There was a dropout of six students when the CBCL-TRF reassessed participants at six months after intervention, three each from the experimental and control groups. This was a loss to follow up of 13.3%.

4.2 Demographics of Sample

4.2.1 Personal and Education demographics

As can be seen from Table 4.1, most learners (n=34 [75.5%]) in the sample were between 15 and 17 years. There were more participants in the experimental group in this age band (n=20 [92%]), but this was not statistically significant. The number of male learners in the sample (n=41 [91%]) outnumbered the number of female learners within the total sample and in each group, but this was again not statistically significant. The two groups were thus comparable on these variables.

Table 4.1 Demographics of sample, stratified by group

Demographic variables		Control Group (n=22)	Experimental Group (n=23)	p value
		n (%)	n (%)	
Age	Early Adolescence 13-14 years	4(18)	1(4)	0.146
	Middle Adolescence 15-17 years	14(72)	20(92)	
	Late Adolescence 18-19 years	3(13)	1(4)	
Gender	Male	21(96)	20(87)	0.633
	Female	1(4)	3(13)	

Significance p≤ 0.05*

4.2.2 Education and socioeconomic demographics

There were statistically significantly more Grade 8 learners in the control group and more Grade 9 learners in the experimental group. As can be seen from Table 4.2, only 30 learners provided information on the number of people living with them in the house.

Table 4.2 Education and indicator of socioeconomic demographics of sample

Level of education		Control Group (n=22)	Experimental Group (n=23)	p value
		n (%)	n (%)	
Grade	Grade 8	14(64)	9(39)	0.007**
	Grade 9	8 (36)	14 (61)	
Indicator of socioeconomic		(n=15)	(n=15)	
Number of people living with at home	2-6	8(36)	10 (43)	0.001**
	7-9	7(32)	3(13)	
	10-19	0	2(9)	

Significance p≤ 0.05* Significance p≤ 0.01**

This data was collected at the beginning of the research. The participants only provided the data they were at liberty to share with the researcher. Even though most

learners in the Cradock community lived in small government subsidy housing, (commonly known as RDP houses), many lived with large numbers of people (94.3%) within those small spaces. Participants in the experimental group had statistically significantly less people living with them at home. Most participants indicated that smoking or using substances made them forget about their challenging socioeconomic status.

4.2.3 Substances used

Cannabis was reported to be the substance most used by the Grade 8 learners in the control group. Alcohol and other substances were used by Grade 9 learners in the experimental group. There was a statistically significant difference (p= 0.012) in the drug use by the experimental group, who abused more alcohol and drugs, and the control group where cannabis abuse was higher. Those who smoked cigarettes mixed them with cannabis or Tik, and on some occasions mixed both.

Table 4.3 Substances used

Substances used	**n (%)**	**n (%)**	**p value**
Cannabis	18(82)	8(36)	0.012*
Cigarette	1(4)	3(13)	
Alcohol		3(13)	
Alcohol and other drugs (Nyaope and Tik)	3(13)	9 (39)	

Significance p≤ 0.05*

4.2.4 Sport and recreation

More learners who engaged in formal leisure activities were from the experimental group (See table 4.4). However, only 61% of learners in the experimental group reported participating in these sport and recreation activities. From the experimental group, 39% did not provide any information on their activities. Conversely, only 55% of learners in the control group provided data on sport and recreation activities they participated in and 45% did not. There was no statistically significant difference between the two groups in the number of learners involved in sport and recreation activities (p=0.643).

Table 4.4 Sport and recreation activities sample participate in

Sport and recreation	Control Group (n=19)	Experimental Group (n=23)	p value
	n (%)	n (%)	
Boxing	1(4)		
Athletics		1(4)	
Soccer	6(27)	8(36)	
Rugby	1(4)	2(9)	
Swimming		1(4)	
Gym	1(4)		0.643
Wrestling	1(4)		
Chess		1(4)	
Indigenous games	1(4)		
Netball	1(4)	1(4)	
None	7(31)	9 (39)	

Significance p≤ 0.05*

4.3 Child Behaviour Checklist Teacher Report Form (CBCL-TRF) (objective 2)

There was no statistically significant difference between the groups on the initial or final CBCL-TRF assessment. No change in behaviour scores was noted postintervention for either group. The intervention group had higher scores than the control group indicating more problematic behaviour, but all scores were within normal behaviour limits. The results of the study in CBCL-TRF displayed girls were more anxious, whilst the boys demonstrated more rule-breaking behaviour. In both the control and experimental groups, participants demonstrated mostly rule breaking and aggressive behaviours, extrinsic and other problems (See Figure 4.1).

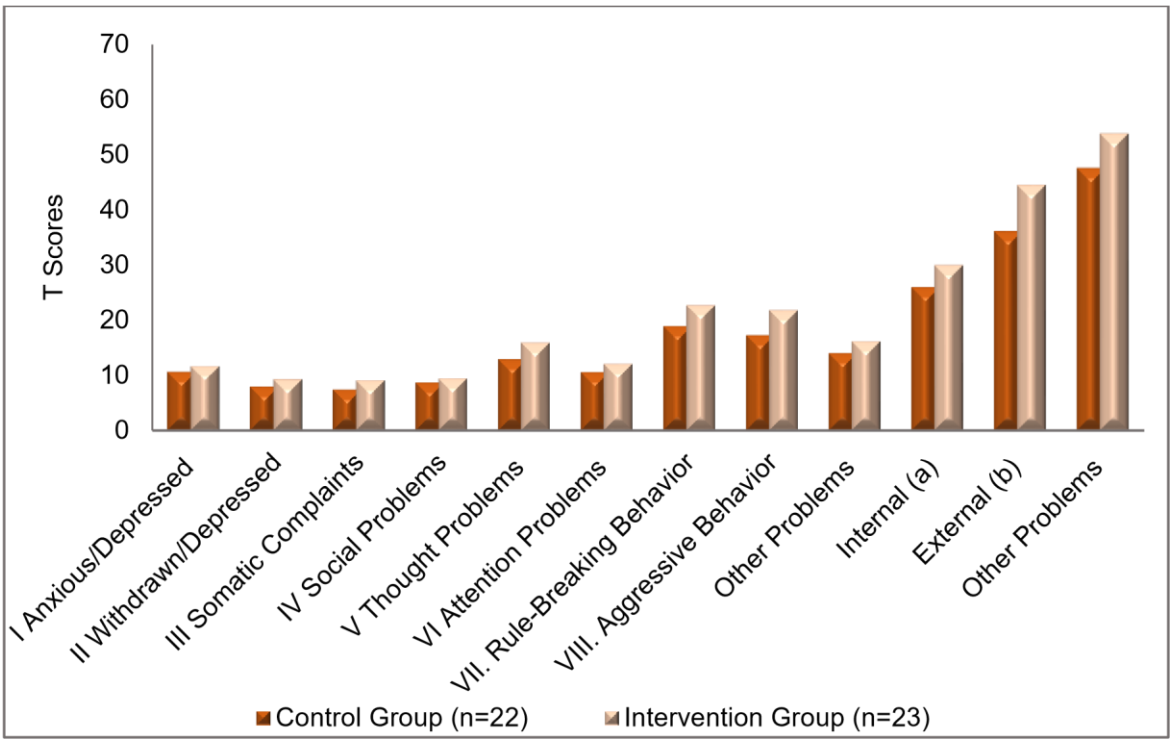

Figure 4.1 Initial scores on the CBCL-TRF

4.3.1 Within group Changes

4.3.1.1 Control group

Table 4.5 illustrates there was no statistically significant change in the behaviour in the participants in the control group over the period when the intervention was carried out with the experimental group. When 19 of the control group participants were assessed six to seven months later there was also no significant change in their behaviour, however, a very small change of one or two points indicated more problematic behaviour was seen for withdrawn/depressive behaviour, problems of rule breaking and aggressive behaviour. There was a greater increase in the score of other problems (internal and external), overall other problems and the total score.

Table 4.5 Within group change for the CBCL-TRF for the control group

Narrow-band scales or syndromes	**Preintervention assessment (n=22)**	**Post intervention assessment-immediate (n=22)**	**p value**	**Post intervention assessment at six-seven months (n=19)**	**p value**
	Median (Lower and upper quartile)			Median (Lower and upper quartile)	
I. Anxious/Depressed	13.00 (6.00-14.00)	13.00 (6.00-14.00)	1.000	13.00 (7.00-14.00)	1.000
II. Withdrawn/Depressed	8.00 (7.00-10.00)	8.00 (7.00-10.00)	1.000	9.00 (7.00-11.00)	0.787
III. Somatic Complaints	8.00 (4.00-11.00)	8.00 (4.00-11.00)	1.000	8.00 (4.00-11.00)	1.00
IV. Social Problems	10.00 (5.00-11.00)	10.00 (5.00-11.00)	1.000	10.00 (5.00-11.00)	1.00
V. Thought Problems	15.00 (5.00-18.00)	15.00 (5.00-18.00)	1.000	16.00 (8.00-18.00)	1.00
VI. Attention Problems	11.00 (9.00-13.00)	11.00 (9.00-13.00)	1.000	11.00 (9.00-16.00)	1.00
VII. Rule-Breaking Behaviour	21.00 (7.00-28.00)	21.00 (7.00-28.00)	1.000	23.00 (14.00-29.00)	1.00
VIII. Aggressive Behaviour	19.50 (8.00-26.00)	19.50 (8.00-26.00)	1.000	20.00 (16.00-26.00)	0.345
Other Problems	16.50 (10.00-20.00)	16.50 (10.00-20.00)	1.000	17.00 (12.00-20.00)	0.600
Internal (a)	29.00 (13.00-34.00)	29.00 (13.00-34.00)	1.000	31.00 (21.00-36.00)	0.685
External (b)	41.50 (14.00-54.00)	41.50 (14.00-54.00)	1.000	42.00 (30.00-56.00)	0.345
Total	128.50 (55.00-153.00)	128.50 (55.00-153.00)	1.000	128.00 (90.00-154.00)	0.463

Significance p≤ 0.05* Significance p≤ 0.01**

4.3.1.2 Experimental group

Table 4.6 indicated there was no statistically significant change in the behaviour in the participants in the experimental group over the period when the intervention was carried out with this group.

Table 4.6 Within group change for the CBC-TRF for the experimental group

Narrow-band scales or syndromes	**Preintervention assessment (n=23)**	**Post intervention assessment-immediate (n=23)**	**p value**	**Post intervention assessment at six-seven months (n=20)**	**p value**
	Median (Lower and upper quartile)			Median (Lower and Upper quartile)	
I. Anxious/ Depressed	12.00 (10.00-14.00)	12.00 (10.00-14.00)	1.000	10.00 (6.00-14.00)	0.001**
II. Withdrawn/ Depressed	9.00 (8.00-11.00)	9.00 (8.00-11.00)	1.000	7.00 (5.00-10.00)	0.001**
III. Somatic Complaints	10.00 (5.00-11.00)	10.00 (5.00-11.00)	1.000	7.00 (4.00-10.00)	0.000**
IV. Social Problems	10.00 (6.00-12.00)	10.00 (6.00-12.00)	1.000	7.00 (6.00-10.00)	0.001**
V. Thought Problems	16.00 (12.00-20.00)	16.00 (12.00-20.00)	1.000	14.00 (11.00-17.00)	0.002**
VI. Attention Problems	12.00 (10.00-15.00)	12.00 (10.00-15.00)	1.000	10.00 (7.00-12.00)	0.001**
VII. Rule-Breaking Behaviour	25.00 (17.00-28.00)	25.00 (17.00-28.00)	1.000	23.00 (19.00-25.00)	0.001**
VIII. Aggressive Behaviour	23.00 (13.00-29.00)	23.00 (13.00-29.00)	1.000	20.00 (14.00-28.00)	0.001**
Other Problems	18.00 (12.00-20.00)	18.00 (12.00-20.00)	1.000	14.00 (11.00-19.00)	0.004**
Internal (a)	32.00 (25.00-36.00)	32.00 (25.00-36.00)	1.000	23.00 (16.00-32.00)	0.001**
External (b)	50.00 (28.00-58.00)	50.00 (28.00-58.00)	1.000	44.00 (33.00-54.00)	0.001**
Total	136.00 (95.00-160.00)	136.00 (95.00-160.00)	1.000	108.00 (93.00-147.00)	0.001**

Significance p≤ 0.05* Significance p≤ 0.01**

When 20 of the experimental group participants were assessed six to seven months later, there was a statistically significant change in their behaviour for all components on the CBCL-TRF. A small change of two to four points indicated less problematic behaviour was seen for anxious/depressed, withdrawn/depressive behaviour, somatic complaints, social and attention problems, thought problems and rule-breaking

behaviour and aggressive behaviour. Behaviour also improved on the other problems (internal and external) and the total score.

4.3.2 Between group results

As can be seen in Table 4.7, there was no statistically significant change in the behaviour scores of the participants in the control group and experimental group over the period when the intervention was carried out with the experimental group. When the change in behaviour scores was analysed six to seven months later, there was a statistically significant change between the remaining 19 control group participants and 20 experimental group participants. The experimental group had a median decrease in scores for all components of the CBCL-TRF and demonstrated significantly less problematic behaviour than the control group for anxious/depressed, withdrawn/depressive behaviour, somatic complaints, social and attention problems, aggressive behaviour and other problems (internal and external) the overall score for other problems and the total score.

Table 4.7 Between group change for the CBC-TRF for the control and experimental groups for post-intervention immediate and post-intervention – six-seven months

Narrow-band scales or syndromes	**Pre-intervention to Post intervention- immediate**			**Post intervention- immediate Post intervention- six-seven months**		
	Control group (n=22)	**Experimental group (n=23)**		**Control group (n=19)**	**Experimental group (n=20)**	
	Median change in scores (lower and upper quartile)		p value	Median change in scores (lower and upper quartile)		p value
I. Anxious/ Depressed	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-2,00 (-4.00 - 0.00)	0.001**
II. Withdrawn /Depressed	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-1,00 (-4.00 - 0.00)	0.003**
III. Somatic Complaints	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-2,00 (-4.00 - -1.00)	0.001**
IV. Social Problems	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (-2.00-6.00)	-2,00 (-5.00 - 1.00)	0.017**
V. Thought Problems	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-2,00 (-4.00 - 0.00)	0.007**
VI. Attention Problems	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-2,00 (-4.00 - 0.00)	0.004**
VII. Rule-Breaking Behaviour	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00))	-2,00 (-4.00 - 0.00)	0.001**
VIII. Aggressive Behaviour	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (-.00-0.00)	-3,00 (-4.00 - 0.00)	0.004**
Other Problems	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-1,00 (-4.00 - 0.00)	0.017**
Internal (a)	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-5,00 (-12.00 - 0.00)	0.001**
External (b)	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (-1.00-0.00)	-4,00 (-8.00 - 0.00)	0.003**
Total	0.00 (0.00-0.00)	0.00 (0.00-0.00)	1.000	0.00 (0.00-0.00)	-9,00 (-36.00 - 0.00)	0.002**

Significance p≤ 0.05* Significance p≤ 0.01**

4.4 Academic performance (objective 3)

4.4.1 Within group Changes

The marks for each of the participants' eight subjects at school were collected. The 4 number of marks reported included eight marks for each participant in the control 5 and experimental groups.

4.4.1.1 Control group

The number of participants in the control group achieving at the different levels of academic performance did not change significantly from the pre-intervention assessment to the post-intervention assessment (Table 4.8). Most participants were at Grade level. Data for all nine subjects taken by the participants were analysed.

Table 4.8 Within group change for academic performance for the control group

Rating of academic results	**Pre-intervention assessment (n=176)**	**Post intervention assessment (n=176)**	**p value**
	n (%)		
1. Far below Grade	18 (10.2%)	12 (7%)	0.672
2. Somewhat below Grade	50 (28.4%)	42 (24%)	
3. At Grade level	71 (40.3%)	71 (40.3%)	
4. Somewhat above Grade level	25 (14.2%)	31 (18%)	
5. Far above Grade	7 (4%)	7 (4%)	

Significance p≤ 0.05*

4.4.1.2 Experimental group

16 The number of participants in the experimental group achieving at the different 17 levels of academic performance did change significantly from the pre-intervention 18 assessment to the post-intervention assessment (Table 4.9). More participants in 19 the experimental group moved from far below Grade level and somewhat below 20 Grade level to at Grade level, indicating they were passing their subjects.

Table 4.9 Within group change for the academic performance for the experimental group

Rating of academic results	**Pre-intervention assessment (n=184)**	**Post-intervention assessment (n=184)**	**p value**
	n (%)		
1. Far below Grade	22 (12%)	10 (5.4%)	0.049*
2. Somewhat below Grade	46 (25%)	37 (20%)	
3. At Grade level	78 (42%)	96 (52%)	
4. Somewhat above Grade	29 (16%)	32 (17.4%)	
5. Far above Grade	0	2 (1%)	

Significance p≤ 0.05*

4.4.2 Between group results

When comparing the change in the number of participants achieving different levels of academic achievement between pre- and post-intervention, statistically significantly more experimental group participants achieved a higher level of academic performance post intervention.

Table 4.10 Between group change for the academic performance for the control and experimental groups

Rating of academic results	**Pre-intervention to post-intervention**		
	Control Group (n=22)	**Experimental Group (n=23)**	**p value**
	Change in scores		
1. Far below Grade	-6	-12	0.002**
2. Somewhat below Grade	-8	-9	
3. At Grade level	0	18	
4. Somewhat above Grade	6	3	
5. Far above Grade	0	2	

Significance p≤ 0.05* Significance p≤ 0.01**

4.5 Activities health (objective 4)

4.5.1 Balance and variety of Activities-Activity profile

There was no statistically significant difference between the two groups on the postintervention activity profile on the week day or the weekend, although the intervention group reported a higher percentage of time spent on substance use and cigarette smoking, which meant they had less free time.

Participants indicated they participated in watching television, reading and playing games in their free time during the week days after school. Activities participants classified as leisure were formal sport and recreation activities, such as playing soccer, rugby, swimming, going to gym and music. Attending church was analysed under religious activities. Social participation was mentioned as a separate activity, but was analysed as such when occasionally participants indicated hanging out with friends for an hour or so, although this could also have occurred while they were involved in other activities.

Free time and leisure activities they participated during the OT programme implementation and during the week days after school were watching television, walking, attending church, playing soccer, rugby, swimming, going to gym and music.

Regarding time use, this study showed the majority of adolescents spent most of the time sleeping, especially on weekends, whereas during the week most of their time was spent at school. A few of them spent their time in leisure activities, which included obligatory domestic duties, especially for females.

Findings for the MGCHS learners showed that the most popular leisure activity for both genders was social fun, as they enjoyed visiting their friends after school, and on weekends, followed by sports (for males) and hobbies (for females), cultural activities, games and lastly, church activities.

4.5.1.1 Activity profile Weekday – Monday

Control Group

The control group activity profile indicated that participants spent 42% of their time sleeping, while 23% of their time was spent at school on a Monday. Nine percent (9%) of the time was used for personal management, while leisure activities and free

time were each reported as 11% of the time. Some participants reported substance use and abuse during the day for 1% of their time, and some students (19%) reported not attending school on a Monday and only 1% of time was used for studying and homework.

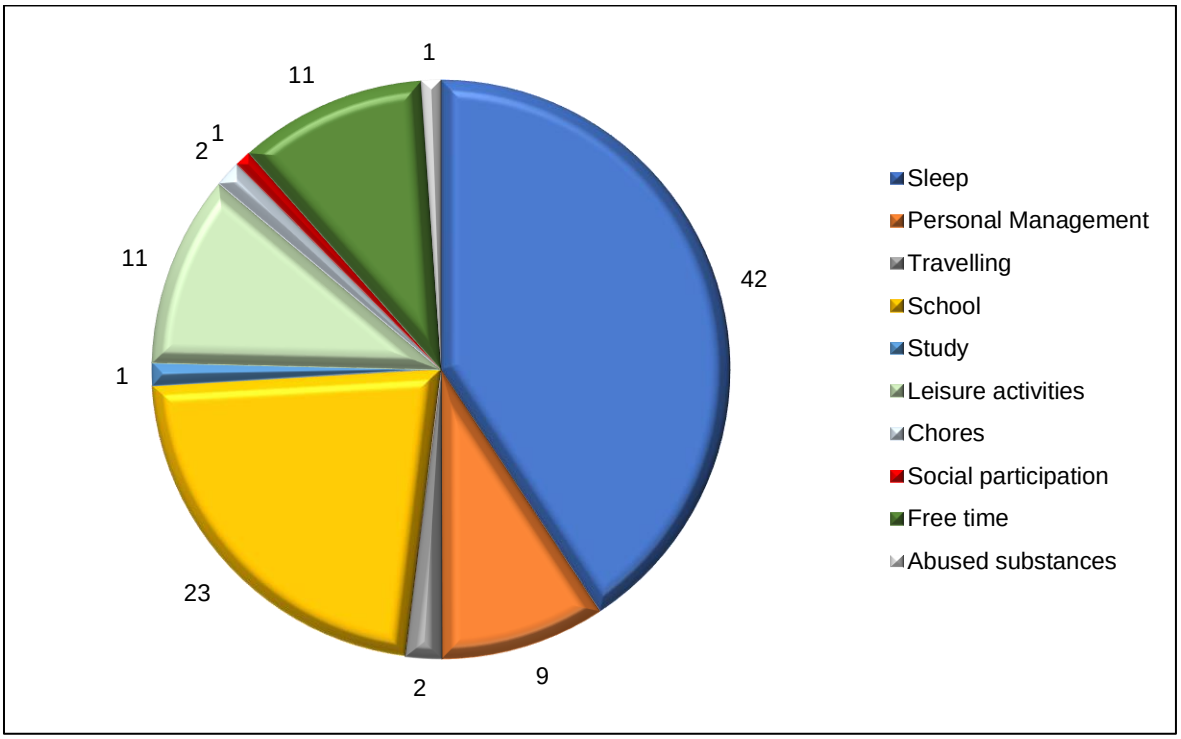

Figure 4.2 Time use of Control group weekday Monday in percentages

Experimental group

The experimental group had a similar activity profile to the control group for Monday, indicating that 40% of their time was spent sleeping, while 23% of their time was spent at school. Seven percent (7%) of the time was used for personal management, while leisure activities was reported as 9% of the time, and free time 8%. More participants reported substance use and abuse during the day for up to 6% of their time and smoking cigarettes for 1% of the time. Some participants reported (18%) not attending school on a Monday, and only 2% of time was used for studying and homework.

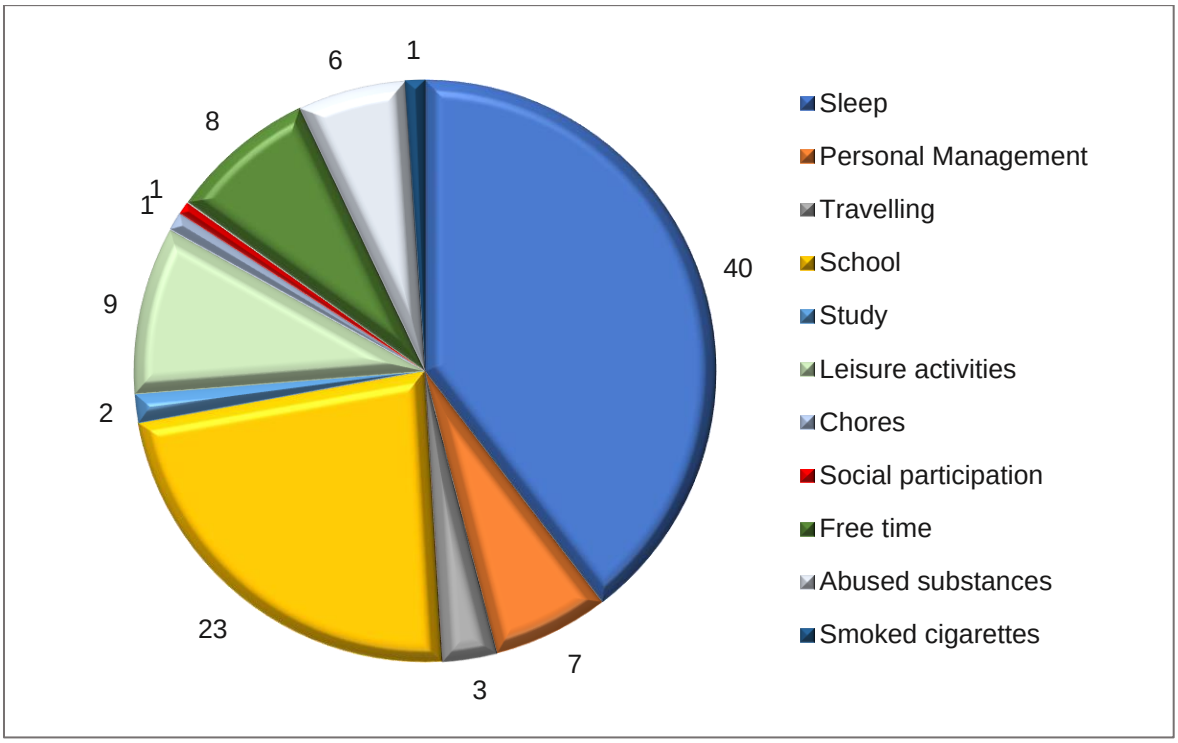

Figure 4.3 Time use of Experimental group weekday: Monday in percentages

4.5.1.2 Time use Weekday- Friday

Control Group

The control group activity profile for Friday was similar to that reported for Monday, with 42% of their time spent sleeping and 23% spent at school. Again, 9% of the time was used for personal management while leisure activities and free time were each reported as 11% of the time. Some participants still reported substance use during the day for 1% of their time and some participants (15%) reported not attending school on a Friday. However, it appeared that some participants (4) left school early on a Friday and only 1% of time was used for studying and for doing homework.

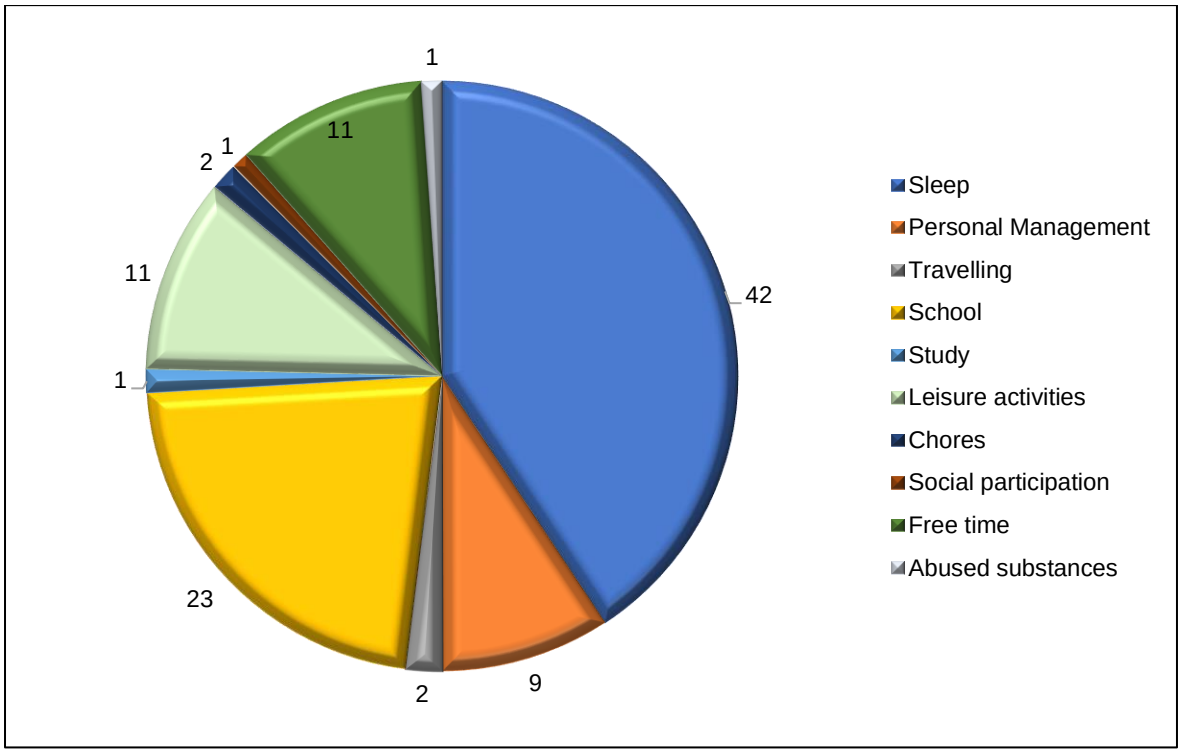

Figure 4.4 Time use Control group weekday Friday in percentages

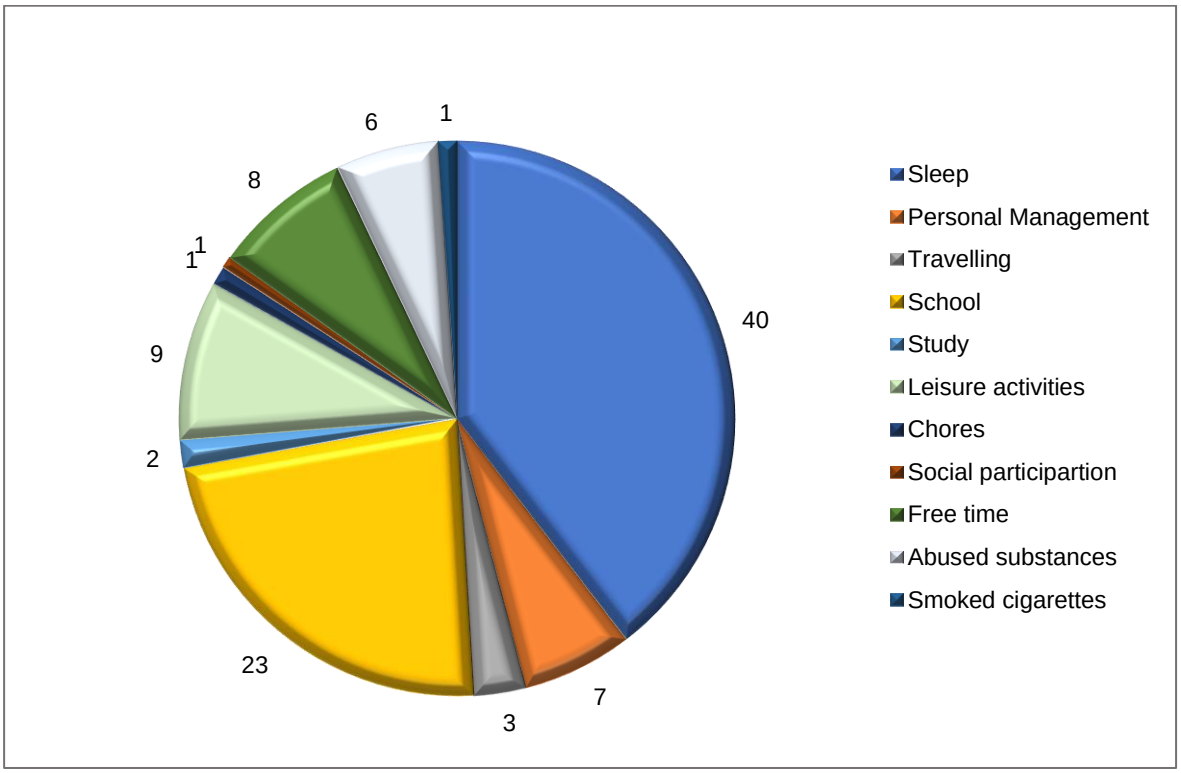

Figure 4.5 Time use Experimental group weekday Friday in percentages

4.5.1.3 Time use Weekend-Sunday

Control Group

The control group activity profile for Sunday reported 43% of their time was spent sleeping. However, their free time increased to 44% within the 24-hour period with a decrease to 4% of the time for personal management, while leisure activities was reported as only 2% of the time. Some participants reported substance use and abuse during the day for 3% of their time. No one reported using time on Sunday to study.

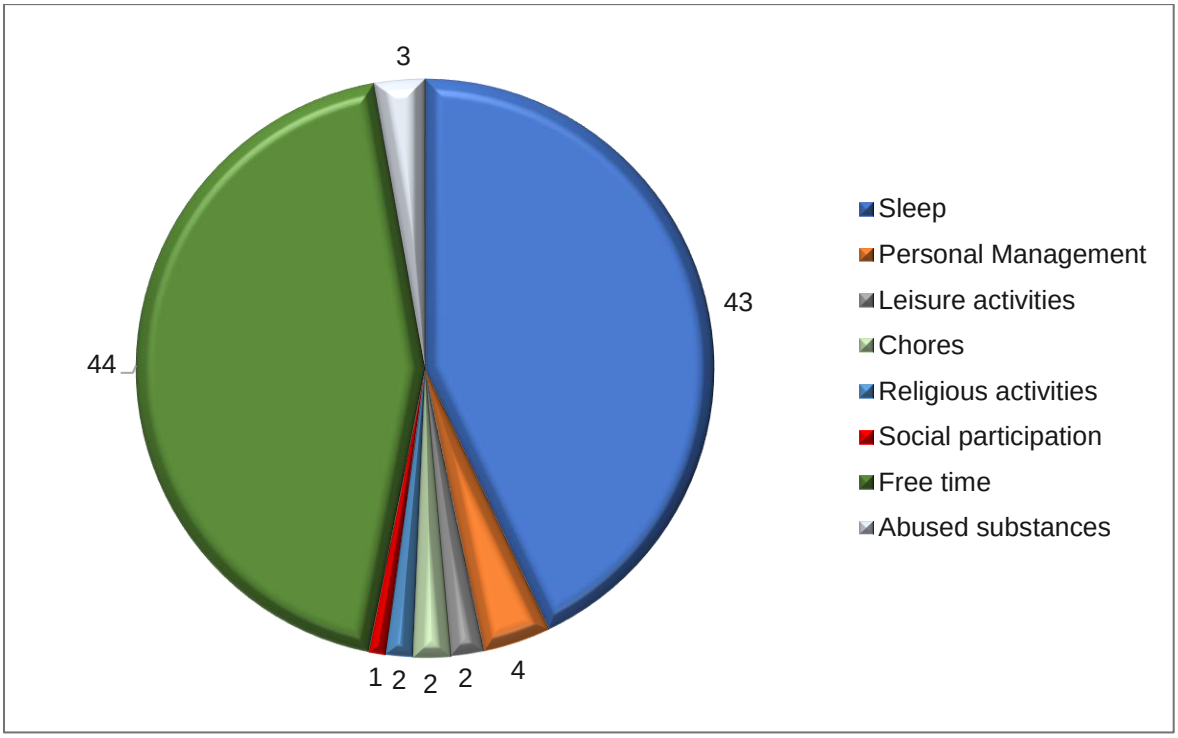

Figure 4.6 Time use of Control group for weekend Sunday in percentages

Experimental group

The experimental group activity profile for Sunday reported that 42% of their time was spent sleeping. However, their free time increased to 36% of the 24-hour period, with a decrease to 3% of the time for personal management while leisure activities were reported as 2% of the time. Participants also reported an increased time for substance use and abuse during the day at 10% and cigarette smoking at 3%. Only 1% of a Sunday was spent studying.

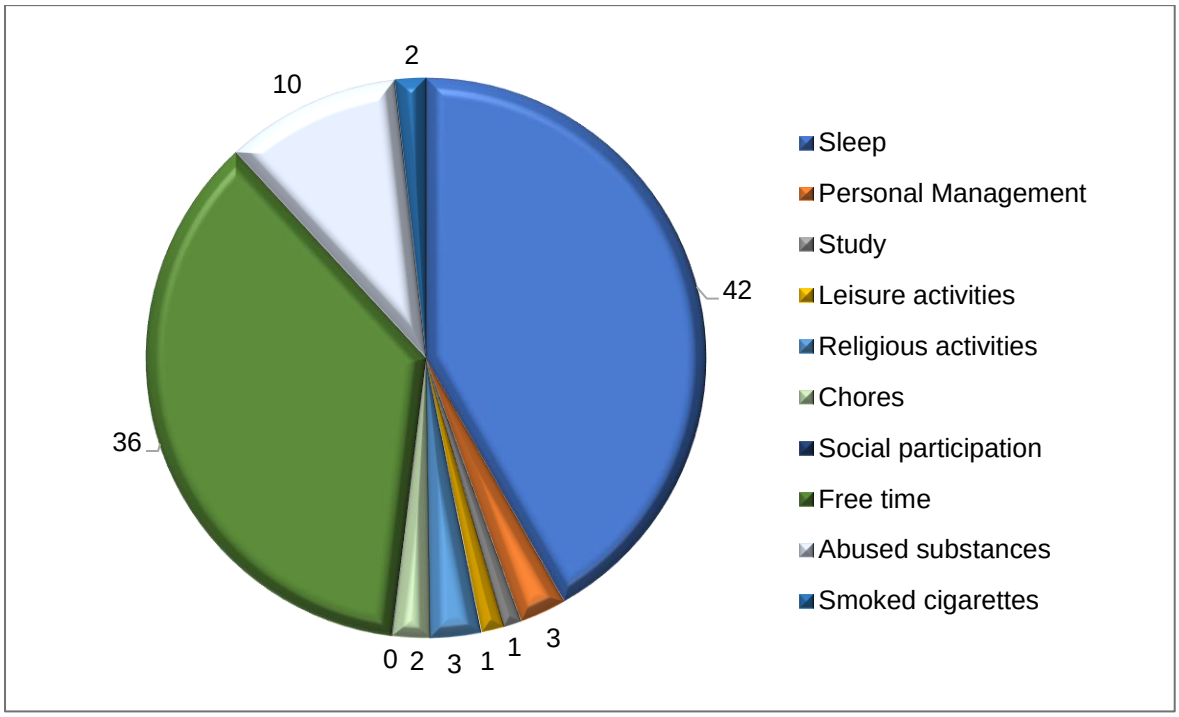

Figure 4.7 Time use of Experimental group weekend Sunday in percentages

There was no statistically significant difference between the time use of the control and experimental groups on a Chi-squared test (p=0.423).

4.5.2 Variety of activities

4.5.2.1 Number of activities

The experimental group had similar variety of activities with a median of 5 (lower and upper quartiles between 3 and 9) when compared to the control group with a median of 5.5 (lower and upper quartiles between 4 and 8) activities. Some participants listed only two activities, school and sleep, and as with most other participants, self-care activities were not included in their list, thus these results mostly reflect other activities in which the participants were involved.

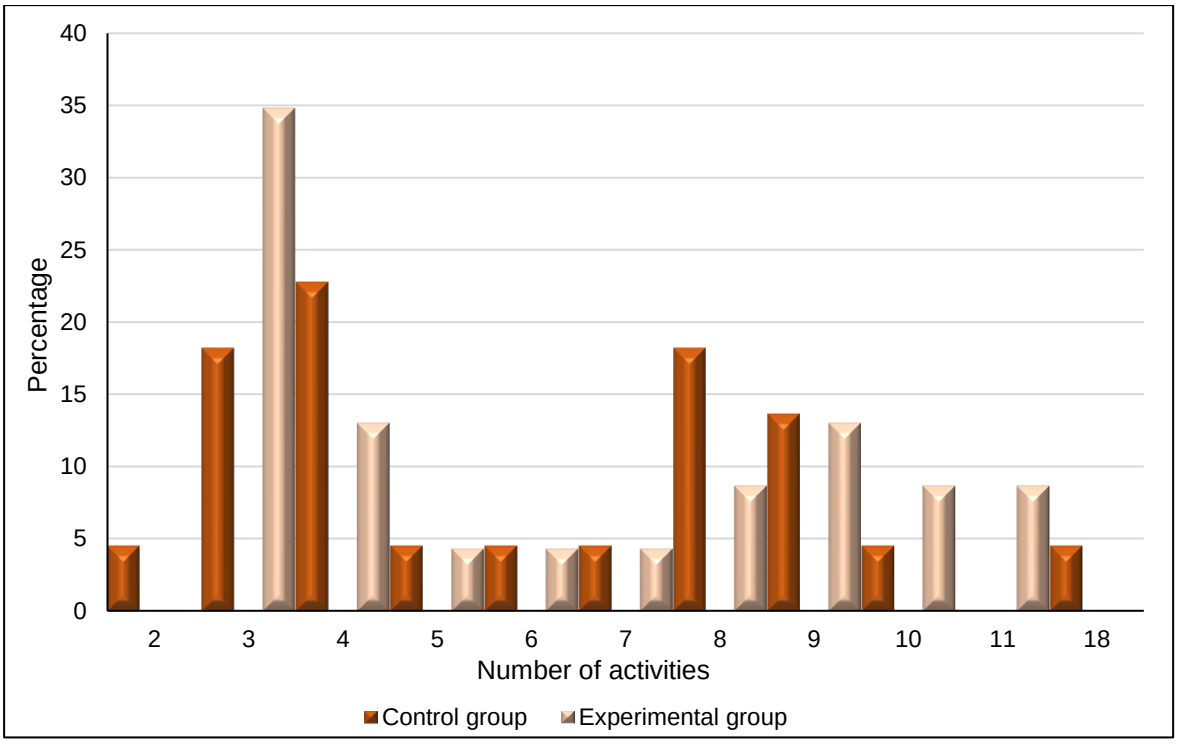

Figure 4.8 Number of activities participants indicated that they participated in

4.5.2.2 Hours spent sleeping

The hours spent sleeping between the two groups was similar, with the experimental group reporting a median of 9 (lower and upper quartiles = 8-9) hours during the week and the control group a median of 8 (lower and upper quartiles = 8-10) hours sleep.

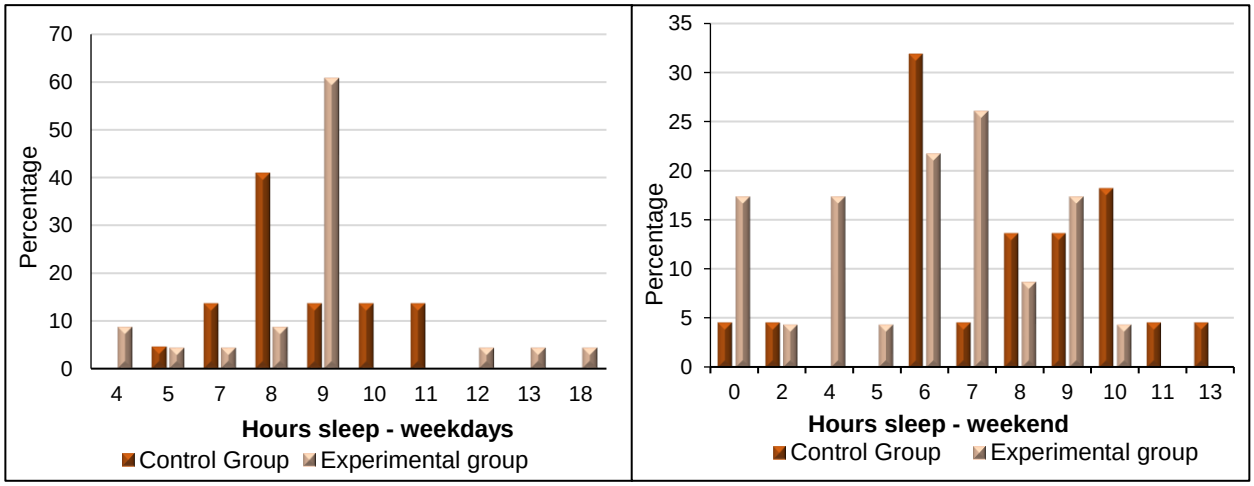

Figure 4.9 Hours sleep for experimental and control group

The experimental group had a greater range in the number of sleep hours for both weekdays and weekends.

Both groups had less sleep over the weekends, with the control group reporting a median of 8 (lower and upper quartiles = 6-10) hours sleep and the experimental group a median of 8 (lower and upper quartiles = 6-9) hours sleep. The difference was not statistically significant between the two groups for weekdays (p = 0.658) and weekends (p = 0.340). There was also no statistically significant difference in the control (p = 0.570) and experimental group (p = 0.887) hours of sleep over the weekdays and weekends.

4.5.2.3 Hours spent in personal management

The hours spent in personal management between the two groups was similar with the experimental group reporting a median of 2 (lower and upper quartiles = 1-3) hours during the week and the control group a median of 2 (lower and upper quartiles = 1-2) hours for personal management. quartiles = 1-2) hours for personal management.

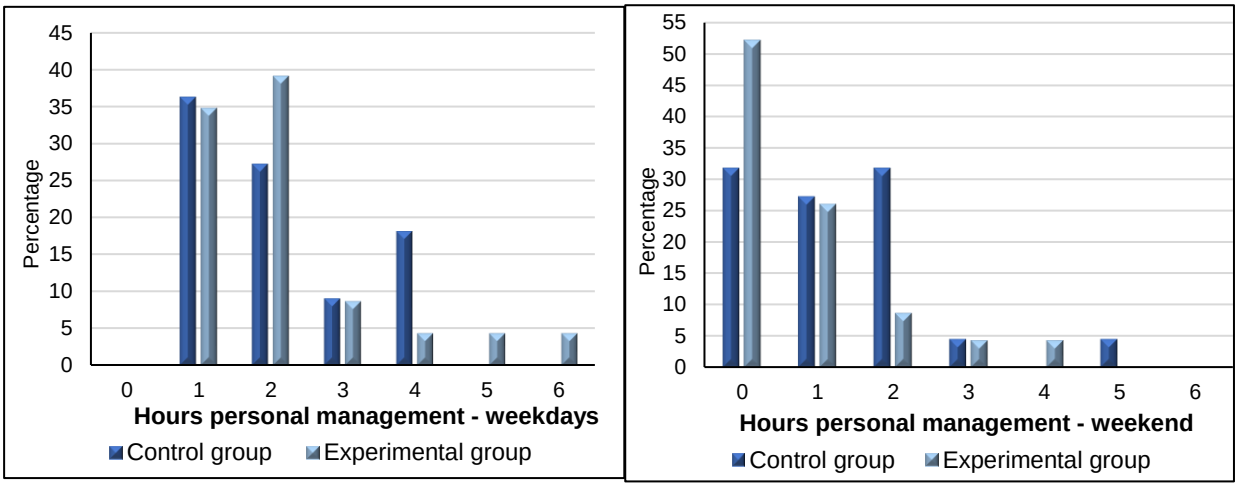

Figure 4.10 Hours spent in personal management for experimental and control group

The experimental group had a greater range in the number of hours for personal management on weekdays. Both groups had less time spent on personal management over the weekends, with the control group reporting a median of 1 hour

(lower and upper quartiles = 0-4) for personal movement and the experimental group a median of 0 hours (lower and upper quartiles = 0-3). The difference was not statistically significant between the two groups for weekdays (p = 0.989) and weekends (p = 0.127). There was no statistically significant difference in the control (p = 0.155) for hours of personal management over the weekdays and weekends, but there was a statistically significant difference for the experimental group (p=0.001)

4.5.2.4 Hours spent in leisure

The hours spent in leisure between the two groups was similar, with the experimental group reporting a median of 3 hours (lower and upper quartiles = 1-2) during the week and the control group a median of 2 hours (lower and upper quartiles = 1-2) for formal leisure activities. The experimental and control group had a similar range in the number of hours for leisure on weekdays.

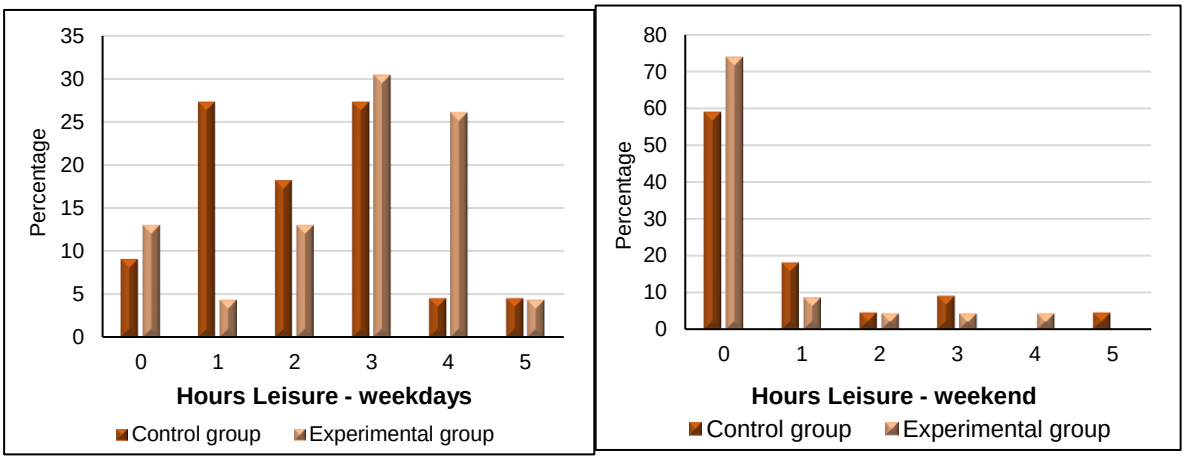

Figure 4.11 Hours spent in leisure for experimental and control group

Both groups had less time spent on leisure over the weekends, with both groups reporting a median of 0 hours (lower and upper quartiles = 0-3). The difference was not statistically significant between the two groups for weekdays (p = 0.100) and weekend (p = 0.458). There was a statistically significant difference in the control (p = 0.002) and the experimental group (p=0.009) for hours of leisure over the weekdays and weekends.

4.5.2.5 Hours spent in education

The hours spent in education between the two groups was similar with both groups reporting a median of 7 hours (lower and upper quartiles = 6-7) during the week and a median of 0 hours (lower and upper quartiles = 0-1) over the weekend. The difference was not statistically significant between the two groups for weekdays (p = 0.990) and weekend (p = 0.654). There was a statistically significant difference in both the control and experimental group (p = 0.001) for hours spent in education over the weekdays and weekends

4.5.2.6 Hours spent in social participation and free time

The hours spent in social participation and free time between the two groups was similar with the experimental group reporting a median of 3 hours (lower and upper quartiles = 1-4) during the week and the control group a median of 2 hours (lower and upper quartiles = 1-3) for these activities. The experimental and control group 6 had a similar range in the number of hours for social participation and free time on 7 weekdays.

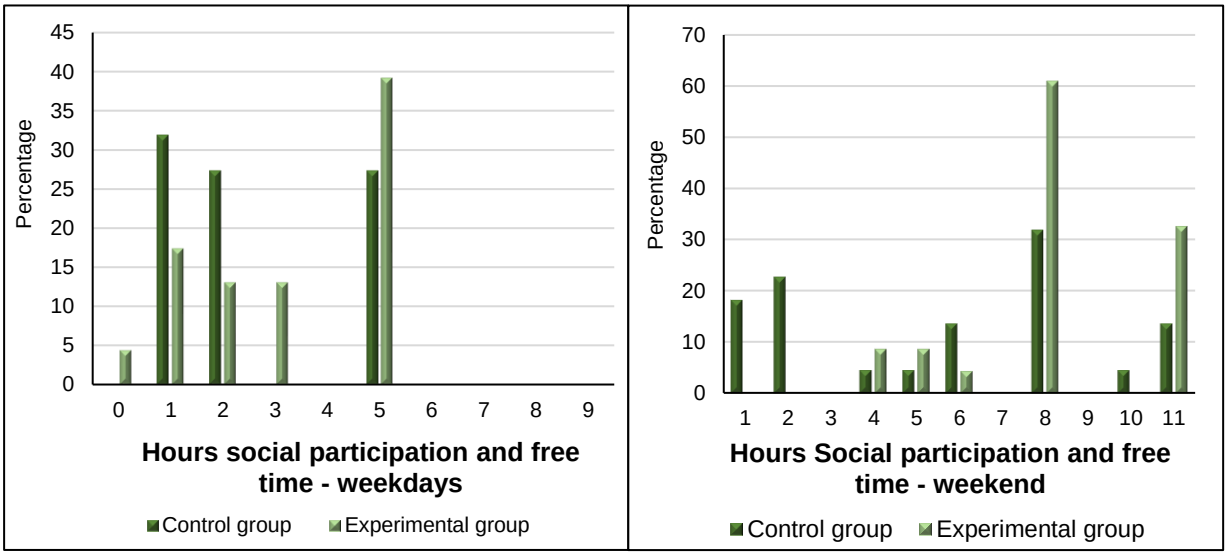

Figure 4.12 Hours spent in leisure for experimental and control group

Both groups had more time spent on social participation and free time over the weekends, with the control group reporting a median of 4.5 hours (lower and upper quartiles = 1-8) for personal movement and the experimental group a median of 7

hours (lower and upper quartiles = 1-7). The difference was not statistically significant between the two groups for weekdays (p = 0.305) and weekend (p = 0.149). There was a statistically significant difference in the control (p = 0.040) and the experimental group (p=0.005) for number hours of leisure over the weekdays and weekends.

The use of substances could not be represented graphically, like the other variables, because the percentage of time participants' acknowledge using substances was small. The number of participants that acknowledged continued substance was between one and four in both groups. The higher percentage of substance use in the experimental group was due to one participant who acknowledged using substances more or less continuously all days of the week.

4.5.3 Satisfaction, comfort with and social appropriateness of activities

4.5.3.1 Satisfaction

The participants in both groups had the lowest satisfaction for survival skills and leisure activities. However, satisfaction was slightly lower for these two aspects as well as social participation in the control group compared to the experiment group.

Table 4.11 Satisfaction with activities for the control and experimental group

Activities health variables	**Control Group (n=22)**	**Experimental Group (n=23**	**p value**
	Median (Lower and Upper quartile)		0.994
Sense of Satisfaction in activities	5 (5-6)	5 (5-6)	
Personal management	6 (4-8)	6 (4-8)	
Education	7 (7-7)	7 (7-7)	
Leisure	2 (1-3)	3 (2-4)	
Sleep	8 (8-10)	9 (8-9)	
Survival skills	2 (1-3)	3 (2-3)	
Social participation	4 (4-5)	5 (4-5)	

Other than sleep, the highest satisfaction was with education activities. Four and five participants in the control group and experimental group respectively had overall satisfaction of activities that fell at a score of 4 or less. There was no statistically

significant difference between the groups for the number of activities they participated in (p=0.944).

4.5.3.2 Comfort

The participants in both groups had the lowest comfort in survival skills and leisure activities. Sense of comfort was lower for these aspects in the experimental group. Other than social participation, the highest comfort was with sleeping. Only one participant in the experimental group had overall comfort of activities that fell at a score of 4.

Table 4.12 Comfort with activities for the control and experimental group

Activities health variables	**Control Group (n=22)**	**Experimental Group (n=23**	**p value**
	Median (Lower and Upper quartile)		
Sense of Comfort in activities	6,5 (6-7)	7 (6-7)	0.999
Personal management	8 5-9)	7 (4-10)	
Education	7 (7-7)	7 (7-7)	
Leisure	5 (3-6)	5 (4-8)	
Sleep	9 (8-19)	9 (8-9)	
Survival skills	2 (0-3)	2 (1-4)	
Social participation	9 (8-10)	9 (7-10)	

4.5.3.3 Social appropriateness of activities

From Table 4.13, the participants in both groups had the lowest social appropriateness in survival skills and leisure activities. Social appropriateness was lower for these aspects as well as personal management in both the control and the experimental groups (see Table 4.13). Other than sleep, the highest social appropriateness was with social participation and education activities. Two participants in the experimental group had overall social appropriateness of activities that fell at a score of 4.

Table 4.13 Perception of social appropriateness of activities for the control and experimental group

Activities health Variables	**Control Group (n=22)**	**Experimental Group (n=23**	**p value**
	Median (Lower and Upper quartile)		
Sense of Social appropriateness in activities	6 (6-7)	7 (6-7)	0.996
Personal management	8 (4-9)	7 (6-9)	
Education	9 (7-9)	7 (7-9)	
Leisure	4 (2-5)	5 (3-7)	
Sleep	8 (8-9)	9 (8-9)	
Survival skills	2 (1-4)	3 (1-5)	
Social participation	4 (7-9)	5 (6-9)	

4.6 Summary

In this study, the experimental and control groups were comparable in terms of their personal and academic demographics. The development of a 24-week group occupational therapy programme for substance was based on the literature and aimed to modify the school performance, behaviour and time use of the experimental group programme. The next chapter discusses the implementation of this programme, including the benefits and challenges.

There was no statistically significant difference between the groups on the initial CBCL assessment, however, on the final CBCL administered in six months of the group occupational therapy programme, slight changes manifested on the results. Behaviour changes in scores were noted post-intervention for the experimental group. The intervention group had higher scores than the control group indicating more problematic behaviour, but all scores were within normal behaviour limits (Achenbach & Rescorla, 2001). There was a statistically significant difference between the groups for academic performance post intervention (p=0.032) with the control group having better academic performance.

There was no statistically significant difference between the groups on the postintervention activity profile, which measured time use on the week day or the weekend day, although it is clear the intervention group reported a higher percentage

of time spent on substance use and cigarette smoking, which meant they had less free time.

The null hypothesis that an occupational therapy group programme developed for Grade 8 and 9 learners who abuse substances at MGCHS in Cradock would have no influence on their behaviour at school and their academic performance was not accepted, as some statistically significant changes were noted in school performance of the experimental group as well behaviour, although the behavioural change was not evident at the end of the study but some 6-9 months later. There was no difference in the time use between the two groups at the end of the study.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter discusses and explains the results of the study, as outlined in Chapter 4, in relation to the existing literature. The sample size and demographic characteristics of the learners who participated in the study are discussed first. The results of the study are then discussed as they relate to the four study objectives. A critique of the group occupational therapy intervention programme developed for learners with a history of using and abusing substances attending at MGCHS in Cradock, in Eastern Cape Province will be discussed, and linked to objective one of the study. Objective two, which was to establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention and six months after the intervention.

This chapter will discuss objective three, which was to establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and immediately after the intervention and six months after the intervention, and objective four, which was to describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme. Finally, the limitations to the study will be discussed.

5.2 The sample

5.2.1 Introduction

The sample for this study was small, and therefore used total population sampling. All possible participants who met the inclusion criteria and whose parents gave consent for participation in the study were included; thus, the sample included all 45 learners in Grades 8 and 9 of MGCHS in Cradock, in Eastern Cape Province, who had been identified and tested positively for substance use. The participants were randomly divided into experiential and control groups (Schumacher, 2013) and the analysis found no statistically significant demographic differences between the groups that could account for differences in the results (Alvi, 2016).

When the final data collection occurred using CBCL-TRF, at approximately six months following the group occupational therapy programme, six participants were lost to follow up, three in each group. The school reported that three of these learners had failed the same grade more than twice, two were over age, and one was in the school's disciplinary process with reports that the school-based support team had not been able to assist this learner. Technically, these six learners can be classified as school drop outs, which, according to Witte et al. (2013), is defined as a learner leaving a formal education system without obtaining a minimal credential, most often at the higher secondary education level (Witte, et al., 2013). The 2014 study by Esch et al. states that the relationship between substance use and school dropout, according to the official records (Esch, et al., 2014), suggests that dropping out from school is more likely for those learners abusing substances (Witte, et al., 2013). It is also reported that adolescents who started using cannabis prior to being 16 years old are five times more likely to drop out of secondary school than their peers who did not consume any drugs (Cavanagh, et al., 2007).

5.2.2 Demographics of participants in the study

This study targeted learners in Grades 8 and 9, where typically their ages should have ranged between 14 and 16 years. However, due to substance use, reported misconduct and some due to academic failure, most participants were in the age band of 15-18 years.

In this study, the number of male learners in the sample (n=41 [91%]) outnumbered the number of females within the total sample. The demographics of participants in this study was consistent with the expected gender profile of learners using and abusing substance, according to literature (Morojele, et al., 2013), but again, this was not significant. The two groups were thus comparable on this variable. Generally, male learners demonstrate a higher prevalence of substance use than females. These findings were expected since this is a common result in other South African prevalence studies (Du Toit, 1991; Flisher et al., 1993; Parry & Bennetts, 1998; Wegner, 1998).

5.2.3 Substances used by sample

Cannabis was the most frequently used substance by the Grade 8 learners in the control group (Brook, et al., 2004).

While there were no differences in the reported amount of alcohol used over the past seven days, as reported by the male and female learners in Grades 8 and 9, other studies have reported significantly more Grade 10 males compared to female learners to be currently using alcohol (29.1% vs 23.5%) (Wegner, 1998). Mrug, in her study, states that high school senior learners tend to be experimenting with substance use and abuse more than junior learners. However, she further reported that teachers testified to Grade 8 and 9 learners coming to school intoxicated by cannabis and using cannabis at school (Mrug, et al., 2010).

Both alcohol and other substances were used by Grade 9 learners in the experimental group, which is similar to the finding by Mrug (Mrug, et al., 2010) (Onrust, et al., 2016).

5.2.4 Engagement in Activities outside of school

This study took place in low socio-economic and under-resourced semi-urban area in Cradock, which falls under the Inxuba Yethemba Municipality in the Chris Hani District Municipality of Eastern Cape Province. It is approximately 240km north of Nelson Mandela Metro and comprises the former Middelburg Eastern Cape and Cradock Local and Rural councils, with their urban centres situated 100km apart (Eastern Cape Socio Economic Consultative Council, 2017). Cradock consists of the suburb of Cradock, and townships of Lingelihle and Michausdal communities. The MGCHS is based in Lingelihle township, which is mostly dominated by Black community members. This area has few resources that support the constructive use of out of school time, however the municipality runs and maintains sports facilities (Rooyen, et al., 2007) (Eastern Cape Socio Economic Consultative Council, 2017). The Lingelihle township has Lingelihle Stadium for sports fields, and Vusubuntu community hall. Learners in this study were asked to report on the activities in which they engaged during their out-of-school time. Sport was the most common activity, with soccer being played by 14 of the participants (control group [n=6 27%] and experimental group [n=8 36%]) and rugby (n=3) and netball (n=2) played by relatively few participants. Most participants (n=16) reported not being involved in activities outside

school, with a slightly higher number in the experimental group (n=9). This is consistent with the participants' anecdotal comments that they had nothing to do with their out of school time, which was why they used drugs. According to Wegner's study in Michell's Plain, Western Cape Province, adolescents, especially those in disadvantaged communities, have limited chances for participation in constructive, satisfying leisure pursuits. This situation, which impacts on their health and well-being, leads to them engaging in destructive activities and risky behaviours, such as hanging out on street corners and using and abusing substances (Wegner, 2011).

5.2.5 Socio-economic situation

Many learners were from low-income households in small RDP houses, with the numbers of people sharing the small space with in the houses ranging from two to 19, with the most commonly reported numbers between two to six. According to some learners, poverty and cramped living conditions contributed to them turning to using substance, as this relieved them. According to Peltzer et al. (2010), drug experimentation among the young people was encouraged by key factors such as being void of hope, early disappointment, problematic development of public education which contributed to anxieties about the loss of educational opportunities and a better life (Peltzer, et al., 2010). The study further stated that cannabis use rates seemed not to be confined to any educational level, and the overall prevalence rate among adolescents ranged from 2% to 9% (Peltzer, et al., 2010). Pelzer et al. reported that substance use in South Africa has been identified by the National Drug Master Plan, as a fuel for crime, poverty, reduced productivity, unemployment, dysfunctional family life, political uncertainty, the evolution of chronic diseases, such as AIDS and TB (Scheibei, 2017), injury and untimely death (Peltzer, et al., 2010). Parents of most learners lack full time jobs and have unstable incomes, and to enhance their income they rely primarily upon the informal economy. They report their mothers mostly work as domestic workers in farm households and selling goods at the roadside, whilst some of their fathers work as car guards, gardeners, and some of them sell illegal drugs. Furthermore, these deprived communities exist without, or have few, governmental services (including police, healthcare facilities, alcohol/drug treatment programmes, schools, statistical data, etc.), an unending legacy of apartheid (Peltzer, et al., 2010). Such governmental services are normally found in

middle class societies. Drug use is associated strongly with quick transformation, and a decline in traditional social relationships and forms of family structure.

5.2.6 Summary

Although there were some demographic variations between the control and experimental groups these were mostly insignificant, thus the two groups were comparable at the start of the study.

5.3 Critique of Occupational Therapy programme developed for this study

5.3.1 Introduction

The first objective of the study was to develop a group occupational therapy programme for use with the experimental group in the study. This aspect of the discussion will focus on a critical review of the group occupational therapy programme developed and implemented by the researcher. The factors influencing this programme are described in section 3.7 of Chapter 3 and again in Appendix Q. The review was informed by an adaption of Equity Lens for Occupational Therapy (ELOT), a critical review process for occupational therapy programmes by Restall, et al. (Restall, et al., 2018). The review will include a reflection of context in which the programme was implemented, the learners for whom the programme was designed, the programme design, the implementation of the programme and finally an evaluation of the delivered programme.

5.3.2 Programme context

The school setting, where the programme took place, supports the philosophy of inclusion in natural environments with inclusion as a value, that supports the right of all, regardless of their diverse abilities, for them to participate actively in natural settings within their communities. According to O'Brien (2015), a natural setting is one in which the individual spends time and is part of the everyday routine of the child and family where incidental learning experiences occur (O'Brien, 2015) . She further states that generalisation of skills and behaviours occur more readily when the intervention setting is the same as the individual's natural environment (O'Brien, 2015). Goode (2011) argues that where poverty is entrenched, the feelings of hopelessness, depression and lack of moral standards are often present. As a form

of escapism, substance use becomes appealing and attractive, a temporary reprieve from unpleasant circumstances. However, not all individuals who find themselves in such circumstances necessarily resort to deviant behaviour or substance use (Anderson, 2016). The study by Anderson (2014) suggested that in such cases individuals may be involved in alternative lifestyles and in so doing, do not engage in deviant behaviour or substance use (Anderson, 2014). The learners initially were not showing any interest in being involved in the group occupational therapy intervention programme, however, as time went by, they demonstrated better motivation to attend the sessions independently. Most of them noted that it resonated with their own struggle and friends. They emphasised a few aspects of the programme as being positive: inclusion of group process principles, identification of the familiar environment, and emphasis on intervention processes and content (Restall, et al., 2018).

Awareness of environmental impact on substance use assisted learners using substances to better understand how many of the challenges they confronted were created by environments rather than themselves (Restall, et al., 2018). One of the most noticeable issues raised in relation to environment was the issue of substance use related stigma. Learners reported stigma as creating barriers to social engagement, activity participation and avoidance of substance use related services (Restall, et al., 2018). According to the American Substance Use and Mental Health Service Administration (2016), the primary reasons for avoiding treatment has been attributed to lack of finance to cover the costs, as well as not being entirely ready to stop using substances (Substance Abuse and Mental Health Services Administration (SAMHSA), 2016).

5.3.3 Learners for whom the programme was designed

The learners in this study were adolescents, meaning they are in a phase of own identity development. For the transition from adolescence to adulthood, the basic skills, which include self-control, problem solving, and decision making, should be achieved (Dumas, et al., 2012). These learners had also been identified as substance users. They indicated they enjoyed not doing anything or just watching television most of their time at home, visiting their friends and listening to music.

According to Crouch, this is normal for adolescents and is not an indication of poor use of leisure time (Crouch & Alers, 2014).

5.3.4 Programme design

The Model of Human Occupation (MOHO) was carefully chosen to guide the development of the programme with a focus on the person, environment, and the dimensions of doing. The Model of Human Occupation's exclusive prominence on values, interests, and personal causation within the volition of the person, linked the literature review with the conception of the product. Other factors described in the literature were also linked to the concepts of MOHO, including habituation, which discusses roles, habits and roles (Roeber & Schaeffer, 2018).

In this study, the model of human occupation was used to frame the programme (Kielhofner, 2008) and the stages of change of the trans-theoretical model were the frame of reference to guide the different steps in the group programme. Many learners highlighted the importance of familiar environment in which the group occupational therapy programme took place, as for they could easily access the venue of activities for the programme, not having to travel long distances after school to access the venue. However, one of them complained that some of the learners at school who were not part of the programme labelled them as 'addictives,' as they were aware the after-school activity was connected to substance use and abuse.

5.3.5 Programme implementation

The first objective of this study was to develop the occupational therapy intervention programme for the Grade 8 and 9 learners identified with substance use. The programme for the learners was developed based on the principles outlined by Flesch (Flesch, 2012). The principles were those of communication and safety, educational and learning, flexibility, objective thinking, creative, reflection, assertiveness, rhythm, teamwork, strengthening and networking, attack and defence, playful and fun, mediating, relaxing, selective, repetitive, priority and reality acceptance. Through the programme, the prevention principles were the guidance of implementation, and the focus was on adolescents' empowerment and education (Grant, et al., 2003).

A consequence of the awareness raised at the school by the therapist and the research project encouraged parents to contact the school staff as soon as they suspected illicit

drug use by their children, requesting and giving consent for their children to be tested at the school.

The learners overwhelmingly supported the inclusion of the group process principles in the programme that emphasised adherence to approaches that were clientcentred, strengths-based, culturally proficient, and holistic.

5.3.6 Evaluation of the delivered programme

From the learners' perspective, they were excited to attend the programme sessions, and most of them participated actively and gave input as needed or as they were influenced by peer pressure (Tshitangano & Tosin, 2016). Some learners indicated that the way they saw themselves changed in other social environments; they became aware that their self-identity shapes their perceptions of belonging, whereas their social identity is constructed by others, and differs from self-identity. They mostly verbalsed that other peoples' opinions were important in their lives and that they tried to please almost everybody they came across. The learners appreciated the availability of intervention in their school environment, however, some verbalised their concerns that over weekends they do not have much to do but smoke cannabis the whole day. Nevertheless, most of the discussions within the intervention focused on the processes rather than the content.

This discussion noted the importance of improving access to intervention for some populations through technology, such as mobiles, video links, and social media. The learners also spoke about the importance of interpersonal relationships in the context of learning. For example, one participant commented "Whatever it is that individual is wanting to learn, it is the process of how you relate to them, how you move forward and follow their direction." The learners acknowledged the reliability of the sessions held at the school on allocated afternoons or times with them.

5.4 Experimental group changes in behaviour and academic results in a year's time after group occupational therapy programme participation

5.4.1 Introduction

The second objective of this study was to establish the difference in the behaviour at school and academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention at two-time intervals. The results of these two variables will be discussed separately.

5.4.2 School behaviour

The pre-experiment results of the CBCL-TRF assessment showed no statistically significant difference between the experimental and control groups. This suggested that in terms of the behaviours measured on the CBCL-TRF, the two groups were similar before the start of the study. This allowed the researcher to determine the impact of the group occupational therapy programme on the learners in the experimental group immediately after the intervention and again six months later (Wasmuth, et al., 2016).

There were some slight differences between the two groups, with the experimental group scores indicating slightly more problematic behaviours, such as rule-breaking and aggressive behaviours, extrinsic and other problems, although the scores fell within normal behaviour limits. There were many adolescent males in the experimental group, which might have influenced the findings, as there were a higher rate of externalising disruptive disorders and juvenile justice problems reported among adolescent boys using substances (National Institute on Drug Abuse, 2014).

Some other gender differences were found in the CBCL-TRF scores. Girls were more anxious. Adolescent females and males naturally have different developmental and social issues, which need diverse intervention approaches. For example, adolescent females with substance use disorders are reported to present with mood disorders, such as depression or sometimes some experience physical or sexual abuse (National Institute on Drug Abuse, 2014).

The post experiment results also showed no change in behaviour scores for either group immediately after the experimental group had attended the occupational therapy group programme. This result suggests that the specifically designed programme had no immediate effect on the learner's behaviour. According to Prochaska, et al., the behaviour change happens gradually and occurs in stages (Prochaska, et al., 2015). However, when the CBCL-TRF was administered six months later there was a statistically significant change in the behaviour of the experimental group when compared to the control group. According to Prochaska, et al., change is a prolonged process (Prochaska, et al., 2015).

Of note was the median decrease in scores for all components of the CBCL-TRF as well as less problematic behaviour, which had been higher than the control group at the initial two evaluation periods. This was noted for the following variables within the CBCL-TRF, anxious/depressed, withdrawn/depressive behaviour, somatic complaints, social and attention problems, aggressive behaviour and other problems (internal and external). Occupational performance is spontaneous, hence must be understood within the context of emerging action and condition. It is also dynamic in nature, as it is influenced and shaped by the external environment that is continuously changing. In this study, the adolescents are influenced by the substance they are using and abusing, as confirmed by literature that substance use among teenagers, in particular young teenagers, is of concern given the evidence that substances with psychoactive effects have a greater impact on adolescents than adults (United Nations Office on Drugs and Crime, 2018). However, in spite of the improvements, both thought problems and rule-breaking behaviour were significantly more problematic at this measurement period than before. According to Parsonson, adolescents learn to distinguish the behaviours required in a diversity of settings and can learn to conduct themselves differently if appropriate and desired behaviours are gestured, encouraged and supported in any given setting (Parsonson, 2012). This may in part be due to rating of problem behaviour in the classroom context, where most of MGCHS educators rated the learners' classroom misconduct as 'sometimes' or 'very often.' Although the scores for these two components between the two groups were very similar at six months' post intervention, they were statistically significantly lower in the experimental group initially. Prochaska indicated that people who advance one stage during the treatment have the possibility of doubling their chances

of acting in the following six months, as they progress from pre-contemplation to contemplation or from contemplation to preparation, and the therapists should also anticipate recycling— the spiral of change (Prochaska, et al., 2015).

5.4.3 School performance

The study results indicated that in spite of the many problems reported by the teachers about the learners' academic performance, most learners scored average to above average in most of the subjects evaluated.

It was also noted that the experimental group achieved a statistically significant change in the different levels of academic performance between the pre-intervention and the post intervention assessment. The group occupational therapy programme included sessions of assisting participants with homework activities, and more explanations on this is highlighted in the programme framework (see Appendix Q).

The fact there were more males than females in the experimental group compared to the control group may be of relevance, because literature states that male adolescents with substance use disorders are more likely to have learning problems, which may be disruptive to their school work (National Institute on Drug Abuse, 2014). However, the different levels of academic performance did not change significantly from the pre- to the post-intervention assessment.

The initial CBCL/TRF (6-18) scores indicated fewer behavioural problems in the control group, and this result was reflected in their statistically significantly better academic performance post-intervention. The lack of change in behaviour pre-test to post-test may well have been due to the post-test assessment being directly at the end of the intervention programme, resulting in limited time for change in behaviour to occur. Therefore, the results may not indicate the effect of the intervention at the initial stage, hence the repeat of the CBCL/TRF after a six-month period. The reported continued use of substances by some learners, especially over the weekend, remains a concern. Moreover, the Stages of Change Model supports the general conclusion that a client's change of behaviour occurs gradually and in stages, along with the finding that such changes of behaviour do not occur in a progressive, linear fashion (Norcross, et al., 2011).

5.5 Time use

5.5.1 Introduction

The activities health explored how the learners used their time during the week and over the weekends. The activity profile was only administered to the groups at the end of the intervention.

5.5.2 Activity profile

The analysis of the activity profile of learners in both groups post intervention revealed there was no statistically significant difference between the two groups on the post-intervention activity profile on the week day or the weekend, although the experimental group acknowledged a higher percentage of time spent on substance use and cigarette smoking, which meant they had less free time. This result indicates that the specially designed occupational therapy group programme had little influence on the way in which learners spent their time during the week and over weekends. The study indicated that post-intervention, the intervention group reported a greater percentage of time spent on abusing substances. While this was a concern, it may be a result of improved insight and openness about their substance use developed during the intervention. The control group may not have been as willing to report this activity on their activity profiles.

Learners reported having a high percentage of free time over the weekend with no productive activity engagement in this time, which may reflect the lack of finances and resources for leisure activities in the communities in which they live. Most learners indicated that being in an environment where substances are easily accessible in the community and close to their school does not encourage abstinence. Participants also mentioned lack of role models in the community who do not take substances, as most people were using. There is also limited parental supervision and guidance, as most parents and caregivers work and are away from home for many hours in the week and weekend, and over weekends learners to do as they do as they like with no extramural activities in which to engage. This is especially problematic during school holidays.

The mentioning of many people living in small houses was a commonality with the learners. Throughout the study, it was evident that poverty and unemployment factors

make substance use devastating and difficult to address in marginalised and disadvantaged communities (Brook, et al., 2004).

Leisure activities are central to youth development and participation in activities promotes the value of one's own and other's cultures and opens youth to new knowledge and perspectives. Sports, arts and music are essential elements for development; such activities lie at the heart of the Alliance of Civilisations' mission that aims at fostering the culture of peace through these collective expressions of human values (Opic & Duranovic, 2014). This study encouraged the participants to actively partake in designated activities, as well as those of their choice, to practice altruism and freedom. However, due to limited resources, they had much free time and a limited range of leisure activities. Learners indicated the activities they were interested to participate in during weekdays and on a weekend day, and the researcher included their interests into the programme.

To measure this, three days were taken into consideration, Monday, Friday and Sunday. There was no statistically significant difference between the groups on the post-intervention activity profile on the week day or the weekend day, although it is clear the intervention group reported a higher percentage of time spent on substance use and cigarette smoking, which meant they had less free time. The experimental group had a greater range in the number of sleep hours for both weekdays and weekends. The learners reported lack of community leisure facilities, and stated they do not even have recreational halls in Cradock to cater for the young people's activities. They reported that at weekends, they have all this free time, doing nothing else but smoking on the community's corners. Leisure is an occupational concern for adolescents living in socially impoverished environments, due to the occupational deprivation and imbalance occurring within their free time resulting in feelings of boredom, which is reduced by substance use (Wegner, 1998). Some of the learners mentioned that sometimes they wish it was time for school, as the school activities keep them occupied.

When considering time use, this study showed that the majority of adolescents spent most of the time sleeping, especially on weekends, whereas during the week most time is spent at school. A few spent their time on leisure activities, which included obligatory domestic duties, especially for females. Findings for the MGCHS learners

showed that the most popular leisure activity for both genders was social fun, followed by sports (for males) and hobbies (for females), cultural activities, games and lastly, church activities.

5.3.3 Perceived satisfaction, comfort and socially appropriateness

One of the learners indicated they are under intense pressure to perform athletically and academically, as the society in which they live is competitive. According to the National Institute on Drug Abuse (NIDA), some adolescents may try illegal drugs since they think those substances will enhance or improve their performance (National Institute on Drug Abuse, 2014). But in contrast to improving performance NIDA has reported that teens who abuse drugs, including smoking of cannabis, have lower grades, a higher rate of absence from school and other activities, and an increased potential for dropping out of school (National Institute on Drug Abuse, 2014). Literature shows that stimulant use is associated with high-risk sexual practices and involvement with the sex industry, however, one must be cautious about assuming that drug use inevitably has negative physical, psychological, or behavioural consequences (Scheibei, 2017). None of the learners admitted to having or demonstrating sexual practices; this could be due to cultural practices, as in the Black culture discussing sex-related information publicly or with the elders is not common practice. However, a few educators at MGCHS mentioned on the CBCL/TRF that some learners seem to be pre-occupied with sex.

The learners in both groups had the lowest satisfaction for survival skills and leisure activities, however, satisfaction was slightly lower for these two aspects as well as the social participation in the control group compared to the experimental group. Other than sleep the highest satisfaction was with education activities. Four and five participants in the control group and experimental group, respectively, had overall satisfaction of activities that fell at a score of 4 or less. There was no statistically significant difference between the groups for the number of activities in which they participated ($p=0.944$). The article by Wegner (2011) states that “Adolescents who have opportunities to experience flow through participation in leisure pursuits also experience satisfaction and well-being, which ultimately contributes to their positive health and development” (Wegner, 2011, p. 9). For occupational therapy, this is of

relevance, as it deepens understanding of leisure as an imperative occupation, and offers understanding about how leisure boredom contributes to risk factors influencing adolescent health, wellbeing and development (Wegner, 2011).

5.6 Limitation of the study

The limitation to the study is that the sample was small and from only one school; however, the small sample was determined by the number of learners who tested positive in using substances, therefore, the results may not be generalisable.

5.7 Summary

In most studies, substance use is seen as the global problem that faces adolescents in schools, and this has become the concern worldwide (United Nations Office on Drugs and Crime, 2015). There are no recreational halls/sites/activities in the community where this study was undertaken, they only have municipality park that is mostly utilised by the working class for their celebratory functions, such as birthdays/weddings/bridal parties or annual closing functions. Sport activities are limited, music is mostly celebrated in their schools, and when the music season is over, learners do not have much to do except engage in illicit activities. During the research, the occupational therapist designed a group occupational therapy intervention programme for learners with substance use in MGCHS in Cradock.

The study indicated that post-intervention, the experimental group reported a greater percentage of time spent on abusing substances. While this was a concern, it may be a result of improved insight and openness about their substance use developed during the intervention. The control group may not have been as willing to report this activity on their activity profiles. The initial CBCL (6-18) scores indicated fewer behavioural problems in the control group and this result was reflected in their significantly better academic performance post-intervention. The lack of change in behaviour pre-test to post-test may well have been due to the posttest assessment being directly at the end of the intervention programme, resulting in limited time for change in behaviour to occur. Therefore, the results did not indicate the effect of the intervention at the initial stage, hence the repeating of the CBCL after six months. However, the reported continued use of substances by some participants, especially over the weekend, remains a concern. Moreover, the Stages of Change supports the general conclusion

that a client's change of behaviour occurs gradually and in stages, along with the finding that such changes of behaviour do not occur in a progressive, linear fashion (Norcross, et al., 2011).

Participants reported having a high percentage of free time over the weekend with no productive activity engagement in this time, which may reflect the lack of finances and resources for leisure activities in the communities in which these learners live.

Most learners indicated that being in an environment where substances are easily accessible does not encourage abstinence. They also mentioned lack of role models in the community, as most people use substances. During weekends and school holidays, these adolescents are mostly on their own, with limited supervision, thus, do as they like with their free time. This is the same during most hours of the week as adults are at work. The mentioning of many people living in small houses was a commonality with the learners. Throughout the study, it was evident that poverty and unemployment factors make substance use devastating and difficult to address in marginalised and disadvantaged communities (Brook, et al., 2004). However, the commitment of the learners to the study made it easier to work with them and to finish the study, as most of them participated actively and contributed positively. Their willingness to share with other schools what they learnt and acquired in the occupational therapy programme is a positive sign.

CHAPTER 6: RECOMMENDATIONS AND CONCLUSION

6.1 Main findings of the study

There was no statistically significant change in the behaviour in the participants in the control group over the period when the intervention was carried out with the experimental group. When 19 of the control group participants were assessed six months later there was also no statistically significant change in their behaviour. However, a very small change of one or two points indicated more problematic behaviour was seen for withdrawn/depressive behaviour, problems of rule breaking and aggressive behaviour. There was a greater increase in the score of other problems (internal and external), overall other problems and the total score.

There was no statistically significant change in the behaviour in the participants in the experimental group over the period when the intervention was carried out with this group. When 20 of the experimental group participants were assessed six months later there was statistically significant change in their behaviour for all components on the CBCL-TRF. A small change of two to four points indicating less problematic behaviour was seen for anxious/depressed, withdrawn/depressive behaviour, somatic complaints, social and attention problems, and aggressive behaviour. Behaviour also improved on the other problems (internal and external) and the total score. However, there was a statistically significant increase indicting more problematic behaviour for thought problems and rule-breaking behaviour. The experimental group had a median decrease in scores for all components of the CBCL-TR and demonstrated significantly less problematic behaviour than the control group for anxious/depressed, withdrawn/depressive behaviour, somatic complaints, social and attention problems and aggressive behaviour, other problems (internal and external) the overall score for other problems and the total score. The scores for these components for the two groups were similar at sixmonths post-intervention, although they had been statistically significantly lower in the experimental group initially.

6.2 Clinical implications of the study

This study has the possibility of improving intervention approaches in cases of addressing adolescent substance use and abuse in school environment whereby change/recovery is anticipated, for better or acceptable behaviour outcome. Some data collection modes indicated a perceived low effectiveness of the current intervention approaches, for example, some participants reported a perceived low effectiveness of current intervention strategies. For instance, one participant reported "I don't think I can ever stop stealing money from home, as it is the only way I can access cash, since I am only at school now, and not working. Otherwise, how am I going to buy my 'tik' (street name for Methamphetamine)."

The occupational therapy programme exposed the learners of MGCHS to both educational and therapeutic activities relevant to their environment and socioeconomic status. During the study, the researcher utilised accessible and costefficient tools available to participants in their school and homes. Recreational facilities need to be in place for adolescent learners to optimise their use of time positively. The Onrust study demonstrated that the adoption of developmental perspective was of value when designing and offering preventive interventions for substance use in youngsters. The study further stated that activities consistent with the primary developmental tasks and changes defined each developmental stage, and all developmental periods offer possibilities for the prevention or reduction of substance use (Onrust, et al., 2016). The behavioural approach is effective in addressing adolescent drug use and abuse. This behavioural therapy intervention assists adolescents to stay off drugs by strengthening their motivation to change. In the group occupational therapy programme run at MGCHS, achieving this was by giving encouragement for abstinence, building skills to resist and refuse substances, and dealing with triggers or cravings (National Institute on Drug Abuse, 2014). The drug use was replaced with constructive and rewarding activities, improving problem-solving skills, and facilitating better interpersonal relationships; these activities are listed on the programme framework (see Appendix Q) (Nelson, 1996; 2014; 2018).

The group occupational therapy programme developed for MGCHS learners considered the gender differences that normally play into adolescent substance use disorders through engaging them into therapeutic occupational activities that included

recreational and relaxation activities (National Institute on Drug Abuse, 2014), examples of which are listed in the programme framework (See Appendix Q). The programme used psychoeducational approach, which had also exposed them to audio-visual presentations on substance use effects, recovery movies and CD's. The sessions provided alcohol and drug use and abuse education sessions on overcoming denial, acceptance and taking responsibility (National Institute on Drug Abuse, 2010).

The researcher also ran training sessions on conflict management, problem solving, handling emotions and coping skills. Triggers and cravings of substance use were also the concerns of the programme as most adolescents in the group verbalised the power these had over them, and felt overwhelmed by such. This led to sessions on how to assist or lead them into building confidence and self-belief.

6.3 Recommendations

The schools/principals should make time or open slots and avail learners for occupational therapy programmes, and space should be allocated to therapists when they visit the schools for therapy. The Department of Education, specifically ECDOE, should include therapy in the curriculum skills for equipping learners on life choices. The School Governing Body (SGB) should be trained or informed about the therapists' role or services in the schools to understand the importance or need for therapeutic sessions for learners of such calibre. More time should be allocated for therapeutic services. SANCA Satellite office in Cradock would be of great gain to the community, as I witnessed its previous effect on our young people in this community before it closed. Bringing this service to the Cradock community would be of best influence for the learners.

6.3.1 Future research

The future research on group occupational therapy programme should look at the adolescents' substance use and abuse intervention during the weekends and compare the findings of the weekdays of their time use.

6.3.2 For the occupational therapy programme

The occupational therapy programme will continue at MGCHS and be introduced to other surrounding schools in the community of Cradock, to learners with a history of

using and abusing substances. However, more time to engage the learners to OT services was suggested by the school. “The experience of working with a research team proved to be most beneficial, due in part to the complexity that could be achieved by participating as part of a larger study. In addition, the support and suggestions of the team members were very valuable. I would recommend this experience to anyone wishing to embark on a research project” (Wegner, 1998, p. 80). The participants, parents/caregivers and the educators of MGCHS of Cradock, their availability, input and cooperation made this study possible.

6.3.3 Future advocacy

Parents, educators and our society should realise that adolescents are in a phase of transition and this phase needs more attention in all areas/spheres. If one area of adolescent growth is neglected or overlooked, our children will always make the wrong choices in areas that could have been avoided. The community needs to work together with the schools and parents, to report any learner roaming around the community during school hours. The ECDOE occupational therapist will collate information on substance use and furnish the school, especially learners who participated in the OT programme; this information will be in a form of a pamphlet.

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APPENDIX A OT PROGRAMME OUTLINE

Occupational therapy programme

OCCUPATIONAL THERAPY INTERVENTION PROGRAMME

The programme will run for a period of six months, and will entail the following:

Goal setting session (code of conduct setting)

Group therapy sessions

Recreational and relaxation activities

Audio-visual presentations on substance use effects

Recovery movies and CDs

Alcohol and drug abuse education

Overcoming denial

Acceptance

Taking responsibility coping skills

Conflict management

Problem solving workshops

Address triggers and cravings

Building confidence and self-belief

Comprehensive aftercare programme

Handling emotions

Start learners' support group in Cradock for learners using substance and recovering.

APPENDIX B OT RESEARCH PROGRAMME IMPLEMENTATION

RESEARCH PROGRAMME IMPLEMENTATION

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Research Initial Recruitment phase	One session	Presentation of programme at the school assembly Powerpoint presentation, discussion and questions	Explain research/ need and benefits and invite possible participants	Informative	N/A	Group	School Assembly
Identifying participants for the programme	One session	Invite them to first group session/	Meet with the participants who have been recruited or identified by	Catharsis	Avoid jargon: use simple terminology and language	Individual	Staff room or office
		purpose. Time/ venues	teachers and MDT members		that everyone understands.		

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Forming the research group	Two sessions	Demographic questionnaire on substance use and abuse (Each participant will complete his or her questionnaire)	1. Introducing participants to each other and programme – must read information sheet and sign assent form and explain what is required of them 2. Data collection 1. Completion of pre-programme data by participants	Cohesion	N/A	Group	School hall

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Pre-contemplation Forming stage	Three weeks Six sessions	Presentation of the occupational therapy programme plan. Presenting the aim, objectives of the study, as well as what's expected from the school educators and learners, especially the participants.	To introduce the occupational therapy programme to the school.	Handling Principles (Therapeutic of self) Adolescents do not like to be told what to do in an authoritative tone, therefore the therapist in this phase, avoided that as much as she could. Let them feel as if they are leading.	An overview of the OT programme given. Key terms and background explained. The main ideas, reasoning, evidence and explanation provided. Avoid overloading them with too	Group	School assembly

					much information		
		Discussion. Assemble the participants	To meet the participants	Introduction of activities for the programme	Clarify plans for the programme and write down their opinions.	Group	School hall
		Assessments through different activities and sessions as assessments are continuous throughout the research period.	To assess group members' physical, scholastic, psychological, emotional, and social functioning to make intervention more therapeutic and relevant.	Reliability Fairness Flexibility Validity Authenticity Practicality Continuing	Through observations and group assessment forms. By allowing the group members to tell how they would like to be addressed.	Individual and group	School Classroom and hall

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Planning session	To discuss with the group members and plan the occupational therapy programme.	Reintroduction of activities for the programme Active involvement of participants in the planning of the programme	By providing each member with opportunity to contribute towards the programme plan.	Group	school hall
		Code of conduct. Group rules or Contract agreement discussion.	To guide the group members towards positivity and active participation.	Group Dynamics Opinions and Ideas Be sensitive Avoid belittling them, even if they are rude.	By electing one person who will ensure that the members adhere to the rules.	Group	School hall

				Avoid giving criticism in front of their peers			
		Code of conduct discussion	Ensure that the group members adhere to the contract, through giving the learners opportunity to make decisions	Cohesiveness Communication Listening Imparting information	None should talk whilst the other person is presenting verbalising his ideas or opinions (Respect).	Group	School hall

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Toilet paper warm up activity	To share one fact about themselves for each roll of toilet paper	Getting to know each other Development of socialising techniques Structuring (use of time and space)	Each one will choose his or her own partner and work in dyad Instruct them to take as much rolls as they can, as they might cry during the session (upgrading)	Group	Outdoors provided the weather allows or use School Hall
		Knowing selfactivity	To become more aware of the importance of positive selfconcept.	OT actively encourages learner to present self to others. Self-efficacy	OT must be very encouraging and supportive of the learner as the person.	Work in dyad	School hall

					Selfacceptance challenge time check allocated.		

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Contemplation phase/ Storming stage	Four weeks Eight sessions	Topic discussions on Substance use, for example, definition, symptoms of use and different forms of substances.	To broaden their understanding of substance, abuse to the extend to dependence.	Firstly, through listening to what they know and thereafter intervene. Universality Information impartation	Facilitate on adjustment of use.	Group	School hall
		Disclosure on substances used.	To encourage members to disclose to their families. Corrective recapitulation of the primary family experience	Through communication amongst group members.	Facilitate importance and benefits of disclosure.	Individuals	Home

		Brainstorming on learned information from the previous sessions	Help them learn more from each other than they would from therapist. To facilitate interaction between the group members	Minimise direct advice or authoritative figure OT should always be at hand to give assistance, encouragement, support and dissipate anxiety that the activity may provoke	Provide them with homework, to discuss on upcoming sessions.	Small groups of five or six	Classroom

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Blind-folding activity	To encourage trust amongst each other. To put trust on each other.	Using their ties (boys) and girls to use their tunic belts for blind folding. Handling and safety principles. Peer relationship	Activity-walk whilst blindfolded. Hold on each other's shoulders.	Dyad	Outdoors, in the school playground field.

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Skipping rope activity (Ugqaphu).	To encourage blood circulation, brain stimulation, increase coordination, fun, and team work. Incorporate social and cooperative skills.	Creativity Fun Group dynamics	Decrease/ increase skipping pace.	Group	Outdoors, in the school playground field.
		Simulated Volleyball (By not being strict on game rules, only teach players simple way of	Teamwork	Learners can structure their free time.	Reward for a winning team	Groups of six players per team	Outdoors, in the playfield

		tossing the ball over the net, in this case, the players used home-made ball, out of stockings)					

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Education session on substance use effect on learners.	To address triggers and cravings, as to how to deal with them.	Educational Encourage learners to use written, diagrammatic and verbal communication; whilst technical is demonstrated. Reinforcement of antidrug attitudes and strengthening of personal commitments against drug abuse. Drug resistance skills	Provide feedback from the homework, issued previously, to discuss on current session.	Group	School hall
		'My Shield' activity worksheets	To boost their confidence.	Reflection Altruism	Different worksheets	Individual	Classroom

			Anger management Reading skills To improve intellectual insight for each to reflect and share on how they see themselves and biggest success, etc.				

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Fist activity Roleplay Discussions	To improve intellectual insight for each to identify their own communication styles. Assertiveness skills training.	Anger management Group dynamics Assertive	Count down referee	Group	Allocated classroom

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Homework assist activities	To improve academic performance and social competence, for example, study habits	Instillation of hope for a better and brighter future. To avoid false hope instillation by being realistic throughout the sessions. OT encourages ability to work through the activity without constant supervision and individual attention. Allow the learners to structure their free time.	N/A	Dyads or group of five or six	Allocated Classrooms

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Ready to change stage Norming	Five weeks Ten sessions	Board games	To improve their grammatical, mathematical and spelling level.	Learning	Increase number of games and timer activation.	Group	Allocated classroom
		Relay activities	To encourage blood circulation, brain stimulation, coordination, fun and team work.	Team work	Increase speed and timing.	Group	Outdoors School playground field.
		Music activities	To encourage harmonious environment and soothing for the soul and mind.	Rhythm	Beats symphony School music instructor involvement	Individual and group	School hall
					for monitoring		

		Soccer and netball games.	To encourage blood circulation, brain stimulation, coordination, fun and team work.	Attack and defense.	Compete against each other.	Group	Outdoors School playground field.
		Twister game	To encourage physical skill and interaction with each other and have fun.	Playful	Adhere to game rules	Dyad	School hall
		Human knot activity	To encourage team building spirit.	Communication and safety.	Adhere to activity rules and add variations to the game.	Group	Outdoors

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Drumming activity	To create sense of connectedness	Creativity, Communication, and fun	Keep up with the rhythm of the facilitator	Group	School hall
		Stress management sessions	Simple ways to relieve stress and anxiety discussions. Controlling stress levels, for the purpose of and for the motive of improving everyday functioning	Flexibility Objective thinking Acceptance of reality		Individuals and or Group	Indoors and outdoors

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Stress Management activities as follow: 1. Exercises- Regular exercise Have exercise routine	To control stress Improve mood and sleep quality, and selfimage.	Improve mood and sleep quality, and selfimage.	Repetitive Increase intensity	Individuals/Dyads/Groups depending on the activity	Indoors and outdoors
			Detoxification	Preventative	Have a reminder not to drink coffee or	Individuals	Home

		2. Reduce caffeine intake			coke, especially night time		
		3. Laughing	To relieve tension by relaxing muscles	Fun	Intentional Imitative behaviour	Group	School hall
		4. Learning to say “NO”	Try not to take on more than what you can handle	Selective Altruism	N/A	Individual	School, home, and community environments

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		5. Avoid procrastination. Have a To-Do-List	Take control of your stress levels by staying on top of your priorities and stop procrastinating.	Prioritise and be realistic. Interpersonal learning and selfunderstanding	N/A	Individuals	School, home, and community environments
		6. YOGA	Join body and mind To increase body and breath awareness	Meditating		Group	School hall
		7. Listening to soothing music	To induce relaxation response	Relaxing		Group	School hall
		Domestic or survival skills	Make nutritious meals	Altruism Team work		Small groups of five or six	School kitchen

		training sessions					

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Popcorn making	Pre-vocational skills instillation OT prepares the selected activity and structure the workplace to promote pre-vocational skills, safety and ergonomic working	Universality Safety precautions	Instructions read step by step	Small groups of five or six people	School kitchen

		Collage	Encourage sharing, ensure that the learners give each other support and advice Share feelings and experiences as they choose own pictures to use in their collage	Altruism Self-efficacy Self- esteem Confidence boost Role play	Instructions of cutting pictures from magazines	Individual/ dyad	School hall
		Ball of string activity	To encourage social interaction	Communication	Pass to opposite individual	Group	School hall and outdoors

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Making the change Performing stage	Five weeks Ten sessions	Balloon Hitter	Keep your own balloon in the air by batting or hitting it with your own hand	Fun Dynamics	Attempt to knock other player's balloons to the ground, whilst guarding your own balloons not to hit the ground	Dyad	School hall and outdoors
		Dancing	To provide physical/mental refreshment and relaxation. To find inspiration and motivation as	Laughter and fun	Keep rhythm with the playing song	Group	School hall and outdoors

			they become lost in the dance. Dance is form of exercise.				

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
		Parents and Caregivers sessions	To educate family about substance use in adolescents and its effects To introduce the family (parents and caregivers) to the newly changed and willing to change adolescents To make family aware of the sessions held with the learners and the support to provide to their children at home, as they're going	Information impartation	N/A	Group	School hall

			through the change phases				
		Repeat some of the above activities.	For reinforcement and assurance	Strengthening and networking principles.		Individual and group	School hall, Classroom and outdoors

STAGES (GROUP AND CHANGE STAGES)	DURATION	ACTIVITY	PURPOSE	PRINCIPLES	GRADING	INDIVIDUAL/ DYAD OR GROUP SESSION	VENUE
Maintenance phase	Seven weeks Fourteen sessions	Evaluation Reassessments	For sustainability Evaluation of all the stages. Written evaluations by group members.	Through verbal and written forms	By everyone	Individual/group	School hall, Classroom, and outdoors
		Termination of the group sessions	Prepare group members for closure Encourage sharing of unsaid feelings. Assist group members in processing feelings about the ending stage.	Separation anxiety Ethically	Share personal feelings	Individuals	Classroom

			Reinforce the progress that members have made Welcome constructive feedback from the group				

APPENDIX C EVALUATION FORM

Questionnaire for participants

QUESTIONNAIRE FOR PARTICIPANTS

INSTRUCTION: *Please indicate your responses on the listed questions, by placing an "x" in the corresponding box, and write comments, if applicable, on the corresponding box.*

	YES	NO	MAY BE	Comments
Does your family or parent know that you are using substances?				
If they don't know that you are using substances, do you want to tell them?				
Will you ever stop using substances?				
If not, do you think you need help?				
Are you getting along with your siblings or other family members?				
Do you have time for your books or to do homework?				
Do you think you're going to pass the current Grade?				

Any other information you would like to provide about yourself? ----------

---

APPENDIX D RAPID TEST

Rapid test used to detect substance used

7

8

APPENDIX E DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire (to be kept Separate) page 1 of 2

Name _____

Surname _____

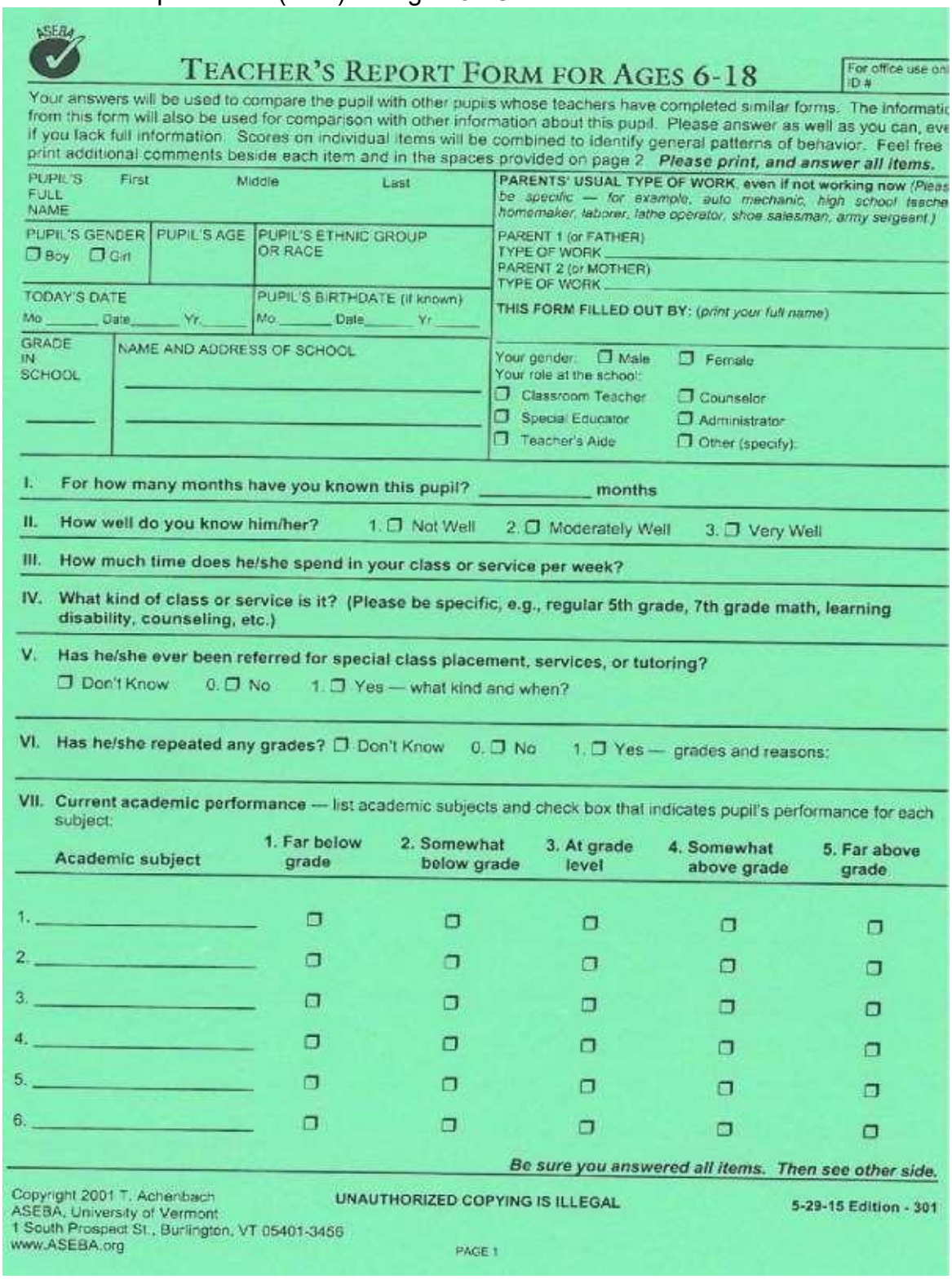
Class _____

Teacher _____

CODE	**AGE**	**GENDER**	**GRADE**	**SPORT/INTEREST /TV SHOW OR PROGRAMME**	**HOW MANY PEOPLE LIVING AT HOME**	**SUBSTANCE USE; YES OR NO. IF YES, LIST NAMES OF SUBSTANCE USED**	**IF STOPPED, WHEN DID YOU STOP, HOW, AND WHY?**
						YES	WHEN? SPECIFY
						NO	WOULD YOU USE AGAIN? YES or NO
						LIST:	

APPENDIX F TEACHERS REPORT FORM

Teacher's Report Form (TRF) for Ages 6-18



TEACHER'S REPORT FORM FOR AGES 6-18

For office use on ID #

Your answers will be used to compare the pupil with other pupils whose teachers have completed similar forms. The informatic from this form will also be used for comparison with other information about this pupil. Please answer as well as you can, eve if you lack full information. Scores on individual items will be combined to identify general patterns of behavior. Feel free print additional comments beside each item and in the spaces provided on page 2. ***Please print, and answer all items.***

PUPIL'S FULL NAME First Middle Last

PUPIL'S GENDER ☐ Boy ☐ Girl | PUPIL'S AGE | PUPIL'S ETHNIC GROUP OR RACE

TODAY'S DATE Mo____ Date____ Yr.____ | PUPIL'S BIRTHDATE (if known) Mo.____ Date____ Yr____

GRADE IN SCHOOL ____ | NAME AND ADDRESS OF SCHOOL ____

PARENTS' USUAL TYPE OF WORK, even if not working now (Pleas be specific — for example, auto mechanic, high school teache homemaker, laborer, lathe operator, shoe salesman, army sergeant.)

PARENT 1 (or FATHER)
TYPE OF WORK ____

PARENT 2 (or MOTHER)
TYPE OF WORK ____

THIS FORM FILLED OUT BY: (print your full name)

Your gender: ☐ Male ☐ Female

Your role at the school:
☐ Classroom Teacher ☐ Counselor
☐ Special Educator ☐ Administrator
☐ Teacher's Aide ☐ Other (specify):

I. For how many months have you known this pupil? _____ months

II. How well do you know him/her? 1. ☐ Not Well 2. ☐ Moderately Well 3. ☐ Very Well

III. How much time does he/she spend in your class or service per week?

IV. What kind of class or service is it? (Please be specific, e.g., regular 5th grade, 7th grade math, learning disability, counseling, etc.)

V. Has he/she ever been referred for special class placement, services, or tutoring?
☐ Don't Know 0. ☐ No 1. ☐ Yes — what kind and when?

VI. Has he/she repeated any grades? ☐ Don't Know 0. ☐ No 1. ☐ Yes — grades and reasons:

VII. Current academic performance — list academic subjects and check box that indicates pupil's performance for each subject:

Academic subject	1. Far below grade	2. Somewhat below grade	3. At grade level	4. Somewhat above grade	5. Far above grade
1. ____	☐	☐	☐	☐	☐
2. ____	☐	☐	☐	☐	☐
3. ____	☐	☐	☐	☐	☐
4. ____	☐	☐	☐	☐	☐
5. ____	☐	☐	☐	☐	☐
6. ____	☐	☐	☐	☐	☐

Be sure you answered all items. Then see other side.

Code _____

Please print. Be sure to answer all items.

VIII. Compared to typical pupils of the same age:	1. Much less	2. Somewhat less	3. Slightly less	4. About average	5. Slightly more	6. Somewhat more	7. Much more
1. How hard is he/she working?	❐	❐	❐	❐	❐	❐	❐
2. How appropriately is he/she behaving?	❐	❐	❐	❐	❐	❐	❐
3. How much is he/she learning?	❐	❐	❐	❐	❐	❐	❐
4. How happy is he/she?	❐	❐	❐	❐	❐	❐	❐

IX. Most recent achievement test scores (optional):

Name of test	Subject	Date	Percentile or grade level obtained

X. IQ, readiness, or aptitude tests (optional):

Name of test	Date	IQ or equivalent scores

Does this pupil have any illness or disability (either physical or mental)? ❐ No ❐ Yes— please describe:

What concerns you most about this pupil?

Please describe the best things about this pupil:

Please feel free to write any comments about this pupil's work, behavior, or potential, using extra pages if necessary.

Please print. Be sure to answer all items.

Below is a list of items that describe pupils. For each item that describes the pupil ***now or within the past 2 months,*** please circle the ***2*** if the item is ***very true or often true*** of the pupil. Circle the ***1*** if the item is ***somewhat or sometimes true*** of the pupil. If the item is ***not true*** of the pupil, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to this pupil.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 1. Acts too young for his/her age
0 1 2 2. Hums or makes other odd noises in class
0 1 2 3. Argues a lot
0 1 2 4. Fails to finish things he/she starts
0 1 2 5. There is very little that he/she enjoys
0 1 2 6. Defiant, talks back to staff
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for long
0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe): _____
_____
0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
0 1 2 15. Fidgets
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Daydreams or gets lost in his/her thoughts
0 1 2 18. Deliberately harms self or attempts suicide
0 1 2 19. Demands a lot of attention
0 1 2 20. Destroys his/her own things
0 1 2 21. Destroys property belonging to others
0 1 2 22. Difficulty following directions
0 1 2 23. Disobedient at school
0 1 2 24. Disturbs other pupils
0 1 2 25. Doesn't get along with other pupils
0 1 2 26. Doesn't seem to feel guilty after misbehaving
0 1 2 27. Easily jealous
0 1 2 28. Breaks school rules
0 1 2 29. Fears certain animals, situations, or places other than school (describe): _____
_____
0 1 2 30. Fears going to school
0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe): _____
_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, high-strung, or tense
0 1 2 46. Nervous movements or twitching (describe): _____
_____
0 1 2 47. Overconforms to rules
0 1 2 48. Not liked by other pupils
0 1 2 49. Has difficulty learning
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy or lightheaded
0 1 2 52. Feels too guilty
0 1 2 53. Talks out of turn
0 1 2 54. Overtired without good reason
0 1 2 55. Overweight
56. Physical problems ***without known medical cause:***
0 1 2 a. Aches or pains (***not*** stomach or headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Eye problems (***not*** if corrected by glasses) (describe): _____
_____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe): _____
_____
_____

 Be sure you answered all items. Then see other sid

Please print. Be sure to answer all items.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe):_____
_____
0 1 2 59. Sleeps in class
0 1 2 60. Apathetic or unmotivated
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers being with older children or youths
0 1 2 64. Prefers being with younger children
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over; compulsions (describe):_____
_____
0 1 2 67. Disrupts class discipline
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe):
_____
_____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Messy work
0 1 2 73. Behaves irresponsibly (describe):_____
_____
_____
0 1 2 74. Showing off or clowning
0 1 2 75. Too shy or timid
0 1 2 76. Explosive and unpredictable behavior
0 1 2 77. Demands must be met immediately, easily frustrated
0 1 2 78. Inattentive or easily distracted
0 1 2 79. Speech problem (describe):_____
_____
0 1 2 80. Stares blankly
0 1 2 81. Feels hurt when criticized
0 1 2 82. Steals
0 1 2 83. Stores up too many things he/she doesn't need (describe):_____
_____
_____
0 1 2 84. Strange behavior (describe):_____
_____
0 1 2 85. Strange ideas (describe):_____
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Underachieving, not working up to potential
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Seems preoccupied with sex
0 1 2 97. Threatens people
0 1 2 98. Tardy to school or class
0 1 2 99. Smokes, chews, or sniffs tobacco
0 1 2 100. Fails to carry out assigned tasks
0 1 2 101. Truancy or unexplained absence
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes (***don't*** include tobacco) (describe):_____
_____
0 1 2 106. Overly anxious to please
0 1 2 107. Dislikes school
0 1 2 108. Is afraid of making mistakes
0 1 2 109. Whining
0 1 2 110. Unclean personal appearance
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worries
113. Please write in any problems the pupil has that were not listed above.
0 1 2 _____
0 1 2 _____
0 1 2 _____

Please be sure you answered all items.

APPENDIX G ACTIVITIES HEALTH ASSESSMENT

Activities Health Profile (Adapted from Pat de Witt, Jan 2010) Code _____

Week days:

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1.00					
2.00					
3.00					
4.00					
5.00					
6.00					
7.00					
8.00					
9.00					
10.00					
11.00					
12.00					
13.00					
14.00					
15.00					
16.00					
17.00					
18.00					
19.00					
20.00					

21.00					
22.00					
23.00					
24.00					

Week end:

TIME	**SATURDAY**	**SUNDAY**
1.00		
2.00		
3.00		
4.00		
5.00		
6.00		
7.00		
8.00		
9.00		
10.00		
11.00		
12.00		
13.00		
14.00		
15.00		
16.00		
17.00		
18.00		
19.00		
20.00		
21.00		

22.00		
23.00		
24.00		

ACTIVITIES HEALTH ASSESSMENT
Code _____

NUMBER AND VARIETY OF ACTIVITIES

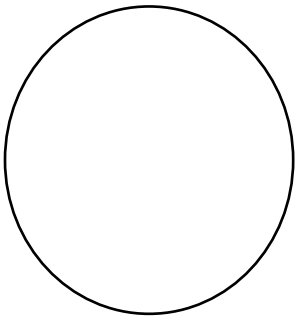
_____

_____

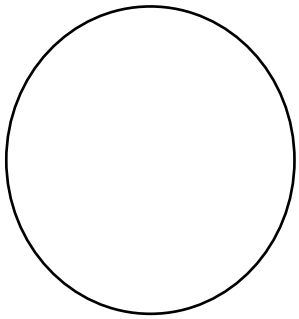
_____

BALANCE OF ACTIVITIES

Week



Weekend



Week	**%**	**Weekend**	**%**
Personal Management			
Leisure/Play			
Work/Education			
Sleep			
Survival Skills			

Social participation			
	100%		100%

SENSE OF SATISFACTION IN ACTIVITIES In each occupational performance area:

Personal Management

0 / /10

Education

0 / / 10

Leisure

0 / / 10

Sleep

0 / /10

Survival Skills

0 / / 10

Social Participation

0 / / 10

---

4. SENSE OF COMFORT IN ACTIVITIES In each occupational performance area.

Personal Management

0 / /10

Education

0 / / 10

Leisure

0 / / 10

Sleep

0 / /10

Survival Skills

0 / / 10

Social Participation

0 / / 10

---

5. SOCIAL APPROPRIATENESS OF ACTIVITIES: Approval by significant others

Personal Management

0 / /10

Education

0 / / 10

Leisure

0 / / 10

Sleep

0 / /10

Survival Skills

0 / / 10

Social Participation

0 / / 10

APPENDIX H RESEARCH APPROVAL

R14/49 Ms Nokuthula India

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M171044

NAME: (Principal Investigator)	Ms Nokuthula India
DEPARTMENT:	Occupational Therapy Matthew Goniwe Comprehensive High School
PROJECT TITLE:	The Impact of Occupational Therapy on the Activities Health of Grade Eight and Nine Learners with Substance Abuse Attending School in Cradock
DATE CONSIDERED:	27/10/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Prof Patricia de Witt
APPROVED BY:	Professor P. Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	20/12/2017

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary on the 3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/We fully understand the conditions under which I am/we are authorised to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. in this case, the study was initially review October and will therefore be due in the month of October each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX I LETTER TO DEPARTMENT OF EDUCATION

Letter to the Department of Education

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

Acting District Director,

Department of Education

Craddock

Eastern Cape

Dear Sir,

I am hereby requesting permission to conduct research in Cradock School. The title of my research study is the outcome of an occupational therapy programme for grade Grade 8 and Grade 9 learners who use substances.

The aim of the study is to examine the effect of participation of Grade 8 and Grade 9 learners who have a history of substance use, in a group occupational therapy intervention programme to influence a change in their behaviour at school, their academic performance and activities health.

Objectives of the study are:

To test this null hypothesis, the following objectives have been formulated:

- To design a group occupational therapy intervention programme for learners with substance use attending at MGCHS in Cradock.
- To establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention at two-time intervals, after the intervention and six months after the intervention.

- To establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and after the intervention at two-time intervals, immediately after the intervention and six months after the intervention.
- To describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme.

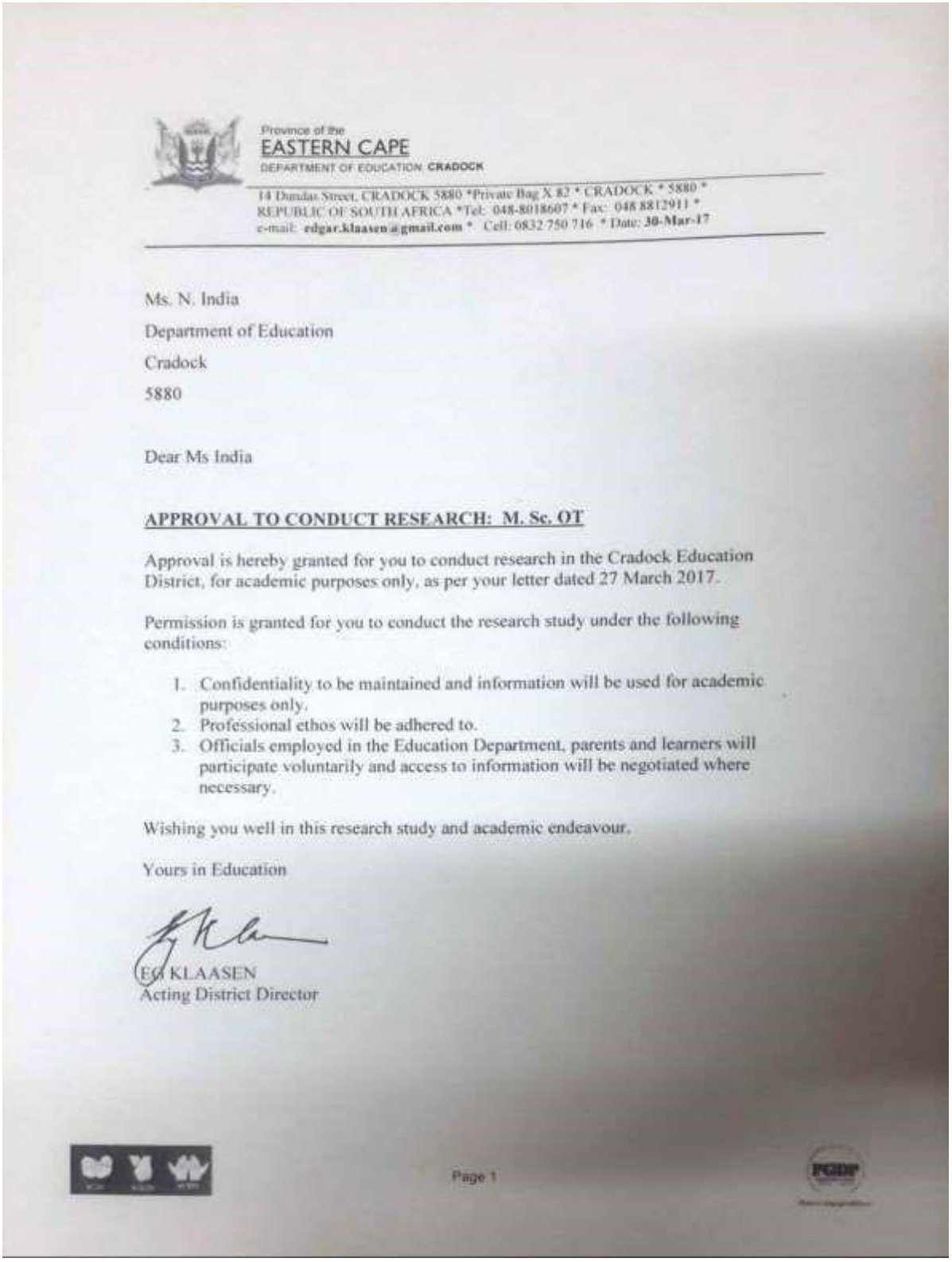
Regards,

Nokutula India Date: _____

Occupational Therapist (OT)

APPENDIX J PERMISSION LETTER

Letter for permission from the Department of Education to the school



Province of the
EASTERN CAPE
DEPARTMENT OF EDUCATION CRADOCK

14 Dundas Street, CRADOCK 5880 *Private Bag X 82 * CRADOCK * 5880 *
REPUBLIC OF SOUTH AFRICA *Tel: 048-8018607 * Fax: 048 8812911 *
e-mail: edgar.klaasen@gmail.com * Cell: 0832 750 716 * Date: 30-Mar-17

Ms. N. India
Department of Education
Cradock
5880

Dear Ms India

APPROVAL TO CONDUCT RESEARCH: M. Sc. OT

Approval is hereby granted for you to conduct research in the Cradock Education District, for academic purposes only, as per your letter dated 27 March 2017.

Permission is granted for you to conduct the research study under the following conditions:

1. Confidentiality to be maintained and information will be used for academic purposes only.
2. Professional ethos will be adhered to.
3. Officials employed in the Education Department, parents and learners will participate voluntarily and access to information will be negotiated where necessary.

Wishing you well in this research study and academic endeavour.

Yours in Education

EG KLAASEN
Acting District Director

Page 1

APPENDIX K LETTER TO MGCHS PRINCIPAL

Letter to the school principal

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

The Principal,

Matthew Goniwe Comprehensive High School

Cradock

Dear Sir,

I am hereby requesting permission to conduct research in Cradock School. The title of my research study is the outcome of an occupational therapy programme for grade Grade 8 and Grade 9 learners who use substances.

The aim of the study is to examine the effect of participation of Grade 8 and Grade 9 learners who have a history of substance use, in a group occupational therapy intervention programme to influence a change in their behaviour at school, their academic performance and activities health.

Objectives of the study are:

To test this null hypothesis, the following objectives have been formulated:

1. To design a group occupational therapy intervention programme for learners with substance use attending at MGCHS in Cradock.
2. To establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention at two-time intervals, after the intervention and six months after the intervention.
3. To establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and after the intervention at two-time intervals, immediately after the intervention and six months after the intervention.

4. To describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme.

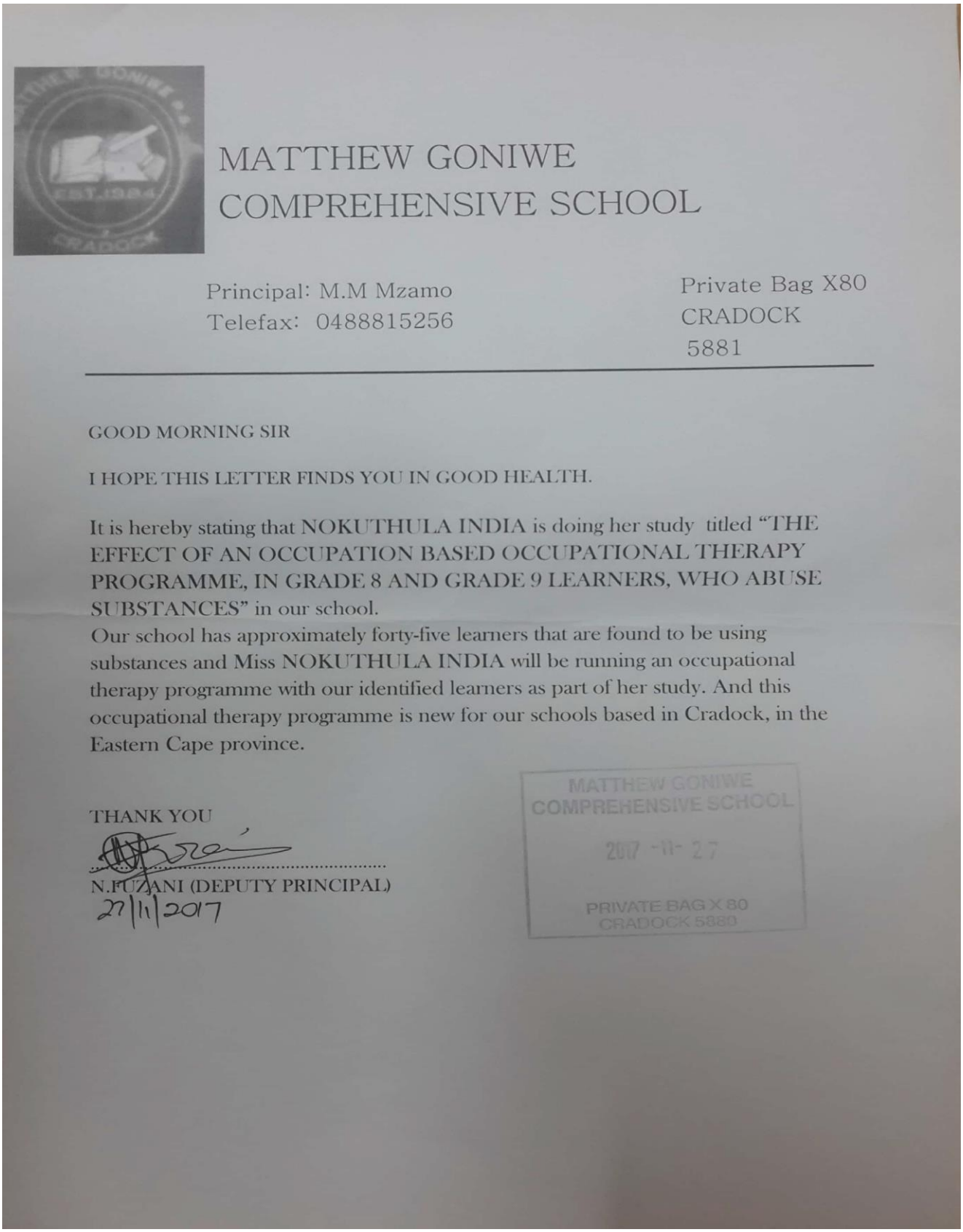
Regards,

Nokutula India Date: _____

Occupational Therapist (OT)

APPENDIX L PERMISSION LETTER FROM MGCHS

Letter of permission from Matthew Goniwe Comprehensive High School to WITS



MATTHEW GONIWE
COMPREHENSIVE SCHOOL

Principal: M.M Mzamo
Telefax: 0488815256

Private Bag X80
CRADOCK
5881

GOOD MORNING SIR

I HOPE THIS LETTER FINDS YOU IN GOOD HEALTH.

It is hereby stating that NOKUTHULA INDIA is doing her study titled "THE EFFECT OF AN OCCUPATION BASED OCCUPATIONAL THERAPY PROGRAMME, IN GRADE 8 AND GRADE 9 LEARNERS, WHO ABUSE SUBSTANCES" in our school.
Our school has approximately forty-five learners that are found to be using substances and Miss NOKUTHULA INDIA will be running an occupational therapy programme with our identified learners as part of her study. And this occupational therapy programme is new for our schools based in Cradock, in the Eastern Cape province.

THANK YOU

N.FUZANI (DEPUTY PRINCIPAL)
27/11/2017

MATTHEW GONIWE
COMPREHENSIVE SCHOOL
2017 -11- 27
PRIVATE BAG X 80
CRADOCK 5880

APPENDIX M LETTER TO PARENTS

Information letter – Parents

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

Dear Parent,

I am hereby requesting permission to conduct research in Cradock School. The title of my research study is the outcome of an occupational therapy programme for grade Grade 8 and Grade 9 learners who use substances.

The aim of the study is to examine the effect of participation of Grade 8 and Grade 9 learners who have a history of substance use, in a group occupational therapy intervention programme to influence a change in their behaviour at school, their academic performance and activities health.

Objectives of the study:

To test this null hypothesis, the following objectives have been formulated:

1. To design a group occupational therapy intervention programme for learners with substance use attending at MGCHS in Cradock.
2. To establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention at two-time intervals, after the intervention and six months after the intervention.
3. To establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and after the intervention at two-time intervals, immediately after the intervention and six months after the intervention.
4. To describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme.

Regards,

Nokutula India Date: _____

Occupational Therapist (OT)

APPENDIX N CONSENT FORM OF THE PARENTS

Informed Consent - Parents

I, _____ (Full name and surname), parent or guardian of _____(Full name and surname), learner at Matthew Goniwe Comprehensive High School, based in Cradock, hereby give permission that my child can participate in the research conducted by Nokutula India. I understand that the results of the research, as explained by the researcher, are a product of the University of Witwatersrand and may be published.

Signature of the parent: _____

Date: _____

APPENDIX O LETTER TO LEARNERS

Information letter – Learners

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

Dear Learner,

I am hereby requesting permission to conduct research in Cradock School. The title of my research study is the outcome of an occupational therapy programme for grade Grade 8 and Grade 9 learners who use substances.

The aim of the study is to examine the effect of participation of Grade 8 and Grade 9 learners who have a history of substance use, in a group occupational therapy intervention programme to influence a change in their behaviour at school, their academic performance and activities health.

Objectives of the study are:

To test this null hypothesis, the following objectives have been formulated:

1. To design a group occupational therapy intervention programme for learners with substance use attending at MGCHS in Cradock.
2. To establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention at two-time intervals, after the intervention and six months after the intervention.
3. To establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and after the intervention at two-time intervals, immediately after the intervention and six months after the intervention.
4. To describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme.

Regards,

Nokutula India _____ Date: _____

Occupational Therapist (OT)

APPENDIX P ASSENT FOR LEARNERS

Signed Assent - Learners

I, _____(Full name and surname), parent or guardian of _____(Full name and surname), learner at Matthew Goniwe Comprehensive High School, based in Cradock, hereby assent to participate in the research conducted by Nokutula India. I understand that the results of the research, as explained by the researcher, are the product of the University of Witwatersrand, and may be published.

Signature of the witness: _____

Signature of the learner: _____

Date: _____

APPENDIX Q LETTER TO TEACHERS

Letter – Teachers

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Department of Occupational Therapy
Wits Education Campus

School of Therapeutic Sciences, Faculty of Health Sciences, 7 York Road, Parktown, 2193, South Africa
Tel: +27 11 717 3701 | Fax: +27 717 3709 | Email: leilane.bogoshi@wits.ac.za | **www.wits.ac.za**

Dear teacher,

I am hereby requesting permission to conduct research in Cradock School. The title of my research study is the outcome of an occupational therapy programme for grade Grade 8 and Grade 9 learners who use substances.

The aim of the study is to examine the effect of participation of Grade 8 and Grade 9 learners who have a history of substance use, in a group occupational therapy intervention programme to influence a change in their behaviour at school, their academic performance and activities health.

Your participation would require you to complete the CBCL-TRF on each participant at the start and end of the intervention programme. Due to the possibility that a behaviour change would not be seen immediately after the intervention programme, you are hereby asked to complete the CBCL-TRF again on each participant after a period of six to seven months .

Objectives of the study are:

To test this null hypothesis, the following objectives have been formulated:

1. To design a group occupational therapy intervention programme for learners with substance use attending at MGCHS in Cradock.
2. To establish the difference in the behaviour at school of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, both before and after the intervention at two-time intervals, after the intervention and six months after the intervention.
3. To establish the difference in academic performance of Grade 8 and 9 learners who did and did not attend the occupational therapy group programme, before and after the intervention at two-time intervals, immediately after the intervention and six months after the intervention.

4. To describe the activities health of Grade 8 and 9 learners who did and did not attend the occupational therapy programme immediately after the intervention as an outcome of the programme.

Regards,

Nokutula India Date: _____

Occupational Therapist (OT)

APPENDIX R CONSENT FOR TEACHERS

Consent form - Teachers

I, _____(Full name and surname), class teacher/coordinator of _____(Full name and surname), learner at Matthew Goniwe Comprehensive High School, based in Cradock, hereby give consent to participate in the research conducted by Nokutula India. I understand that the results of the research, as explained by the researcher, are the product of the University of Witwatersrand, and may be published.

Signature of the class teacher/coordinator: _____

Date: _____

APPENDIX S TURN-IT-IN REPORT

TURN-IT IN Report

AN OCCUPATIONAL THERAPY PROGRAMME FOR GRADE 8 AND GRADE 9 LEARNERS, WHO ABUSE SUBSTANCES

ORIGINALITY REPORT

10%	8%	5%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	scielosp.org Internet Source	1%
2	www.ncbi.nlm.nih.gov Internet Source	<1%
3	Lichun Wang, Chaoxing Xiao, Lei Chen, Xiaofei Zhang, Qiuye Kou. "Impact of hypophosphatemia on outcome of patients in intensive care unit: a retrospective cohort study", BMC Anesthesiology, 2019 Publication	<1%
4	mafiadoc.com Internet Source	<1%
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