

https://dspace.org/

Employee satisfaction with occupational health practitioners in the Gert Sibande District in Mpumalanga

Naicker, Kavitha

2018

https://hdl.handle.net/10539/25335

Downloaded from a DSpace repository. https://dspace.org/

EMPLOYEE SATISFACTION WITH OCCUPATIONAL HEALTH PRACTITIONERS IN THE GERT SIBANDE DISTRICT IN MPUMALANGA

BY

KAVITHA NAICKER

A research report submitted to the Faculty of Health Sciences,

University of the Witwatersrand, Johannesburg,

in partial fulfilment of the requirements for the degree of

Master of Science in Nursing

Johannesburg 2018

CANDIDATE'S DECLARATION

I, Kavitha Naicker, ID Number 8902100112084, declare that this Course Work is my own, unaided work. It is being submitted for the Degree of Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

_____

(Signature of Candidate)

____ day of _____

Protocol number M150438

DEDICATION

IN MEMORY OF MY FATHER

GANESAN (JULIEN) NAICKER

1962–1988

ACKNOWLEDGEMENTS

The Almighty Jesus for His continuous guidance and blessings.

To my supervisors, Dr. A. Tshabalala and A.A. Huiskamp, for their guidance and support, and to Nicky Nagy for editing my report.

I am indebted to my study site and all participants in the Gert Sibande District of Mpumalanga for their support, willingness to assist and cooperation during my research.

To my family – my mother Sushila Naicker, sister Mohini Gounden and my baby girl Samariya Julie-Anne Naicker – for their immeasurable support, encouragement, guidance and understanding, I am forever grateful.

ABSTRACT

Background

Client satisfaction is an increasingly important concept in service delivery, especially in the health sector. Knowing whether clients are satisfied has a multi-faceted effect. Besides being a determinant of quality service and care, satisfaction encourages happy clients to return to the service/company, so that the company retains their clientele, and may attract more.

Purpose

The purpose of this study was to explore and describe the employees' level of satisfaction with the occupational health practitioners (OHPs) at one of the occupational health services (OHSs) in the Gert Sibande District in the Mpumalanga Province.

Objectives

The purpose of this study was to:

1. ascertain the specific demographics of employees presenting at the occupational health service (OHS)
2. ascertain and describe employees' overall satisfaction with the occupational health practitioner's (OHP's) consultation on their visit
3. describe employees' levels of satisfaction with how they were managed on their visit
4. explore and describe employees' perceptions regarding the OHS environment
5. describe the level of trust in the relationship between the employee and the OHP.

Research design and method

This study made use of a quantitative cross-sectional descriptive study design to measure satisfaction experienced by clients entering and using a specific occupational health service. The survey method used was based on the *Patient Satisfaction with Occupational Health Physicians* tool developed by Verbeek, de Boer, van der Weide et al. (2005).

Data analysis

Data was captured using the guidelines provided by Verbeek et al. (2005) and was analysed using the Data Analysis and Statistical Software Version 14.1 software (STATA) computer package. Descriptive and inferential statistics were used to analyse the data. Statistical assistance was

provided by a biostatistician at the Health Sciences Faculty of the University of the Witwatersrand in Johannesburg. Data were presented in tables and figures. Categorical data was presented using frequencies (number of occurrences) and percentages.

Main findings

Participants surveyed had a mean age of 33.87, with the majority being male, while the highest education attained was at the secondary level. Although 43.4% of participants had never used the service before, the arithmetic mean of the overall satisfaction rating with the OHP service was found to be 9.06 out of 10, implying that both new and returning participants experienced a high level of satisfaction. Most subscales showed an overall mean rating of more than 4, again implying that participants were satisfied with the services rendered.

Conclusion

Literature reveals that limited research has been done on South African employees' levels of satisfaction with occupational health practitioners (OHPs). For this reason the researcher decided to ascertain and describe employees' overall level of satisfaction with OHPs, finding a high level of satisfaction amongst the participants in this study. Ultimately, employees' satisfaction is a strong indicator of quality of care, and employees should be able to voice their opinions on the quality of care received.

Recommendations

The occupational health nurse practitioner (OHNP) should be encouraged to participate in research- and evidence-based practice, as well as to formulate satisfaction surveys related to the specific workplace based on the workers' needs, in order to identify strengths and weaknesses in the service provided. Further studies should be conducted on OHP services in South Africa. These studies can take place in different industries and provinces to ascertain if the results obtained herein are generally prevalent or will be contradicted. Furthermore, alternate methods of data collection such as qualitative one-on-one interviews should be used to yield more in-depth information on the satisfaction of employees with OHSs.

Keywords

Employee, Occupational Health Practitioner, Satisfaction, Occupational Health Service, Survey

CONTENTS **PAGE**

DEDICATION III
ACKNOWLEDGEMENTS IV
ABSTRACT V
TABLE OF CONTENTS VII
LIST OF ANNEXURES X
LIST OF FIGURES XI
LIST OF TABLES XI
NOMENCLATURE XII
CHAPTER ONE: OVERVIEW OF THE STUDY
1.1 INTRODUCTION 1
1.2 OCCUPATIONAL HEALTH AND SAFETY IN SOUTH AFRICA 2
1.3 PROBLEM STATEMENT 4
1.4 RESEARCH QUESTION 5
1.5 PURPOSE OF THE STUDY 5
1.6 RESEARCH OBJECTIVES 5
1.7 SIGNIFICANCE OF THE STUDY 5
1.8 OPERATIONAL DEFINITIONS 6
1.9 DEMARCATION OF THE STUDY 7
1.9.1 Setting 7
1.9.2 Population 7
1.10 RESEARCH METHOD 8
1.11 OUTLINE OF THE STUDY 8
1.12 SUMMARY 8
CHAPTER TWO: LITERATURE REVIEW
2.1 INTRODUCTION 9
2.2 SATISFACTION AND QUALITY IN SERVICE DELIVERY 9
2.2.1 The meaning of satisfaction and quality 9
2.2.2 Factors that contribute to client satisfaction and dissatisfaction 11
2.3 IMPORTANCE AND MEASUREMENT OF CLIENT SATISFACTION 15
2.4 CLIENT SATISFACTION WITH OCCUPATIONAL HEALTH 17

	SERVICES	
2.5	SUMMARY	18
CHAPTER THREE: RESEARCH DESIGN AND METHOD		
3.1	INTRODUCTION	19
3.2	RESEARCH OBJECTIVES	19
3.3	RESEARCH SETTING	19
3.4	RESEARCH DESIGN	21
3.5	POPULATION AND SAMPLING	22
3.5.1	Population	22
3.5.2	Sample size and sampling	22
3.5.3	Sampling procedure	22
3.6	DATA COLLECTION	23
3.6.1	Data collection instrument	23
3.6.2	Instrument use and changes	24
3.6.3	Reliability and validity of the instrument	25
3.6.4	Data collection procedure	26
3.7	DATA ANALYSIS	26
3.8	ETHICAL CONSIDERATIONS	28
3.8.1	Institutional approval	28
3.8.2	Participant consent	28
3.9	ETHICAL PRINCIPLES	28
3.10	SUMMARY	28
CHAPTER FOUR: RESULTS AND DISCUSSION OF RESULTS		
4.1	INTRODUCTION	30
4.2	DATA PREPARATION	30
4.3	APPROACH TO DATA ANALYSIS	31
4.4	OBJECTIVES ACHIEVED BY STATISTICAL ANALYSIS	32
4.5	PRESENTATION OF THE RESULTS AND DISCUSSION	33
4.5.1.	Section 1: Demographic and workplace data	33
4.5.2	Section 2: Overall satisfaction with occupational health practitioner	36
4.5.3	Section 3: Questions pertaining to the subscales of the questionnaire	37

4.5.3.1	Frequencies and percentages pertaining to section 3 of the questionnaire	38
4.6	COMPARATIVE AND INFERENTIAL TESTING	45
4.6.1	Reliability and accuracy of the subscales	45
4.6.2	Distribution of the sample	46
4.6.3	Differences in mean scores between demographic characteristics and overall satisfaction scores	46
4.6.4	Satisfaction with Occupational Health Practitioners based on the five subscales	50
4.6.5	Association between demographic factors and participants overall satisfaction with occupational health practitioners	50
4.6.6	Distribution of questionnaire item responses for participants of the study	52
4.7	DISCUSSION OF THE RESULTS	54
4.7.1	Demographic data	54
4.7.2	Utilisation of the OHS	55
4.7.3	Overall satisfaction with OHPs in relation to demographic variables	56
4.7.4	Satisfaction pertaining to the subscales of the questionnaire	58
4.7.4.1	Being taken seriously as a patient during this visit	58
4.7.4.2	Trust and confidentiality during this visit	59
4.7.4.3	Expectations for this visit	61
4.7.4.4	Comfort and access during the visit	61
4.7.4.5	Attitude towards OHSs in general	63
4.8	SUMMARY	63
CHAPTER FIVE: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS		
5.1	INTRODUCTION	64
5.2	SUMMARY OF THE STUDY	64
5.3	SUMMARY OF THE MAIN FINDINGS ACCORDING TO THE STUDY OBJECTIVES	65
5.3.1	Demographics	65
5.3.2	Overall satisfaction	65
5.3.3	Level of satisfaction with how clients were managed	65
5.3.4	Clients perceptions regarding the OHS	65

5.3.5	Level of trust relationship between clients and the OHP	66
5.4	LIMITATIONS OF THE STUDY	66
5.5	RECOMMENDATIONS	67
5.5.1	Occupational health nursing practice and education	67
5.5.2	Further research	67
5.6	SUMMARY	67
	REFERENCES	69
	ANNEXURES	80

LIST OF ANNEXURES

Annexure A	Ethical Clearance Certificate. Human Research Ethics Committee (HREC) Medical of the University of the Witwatersrand. Protocol number: M150438
Annexure B	Approval of Title
Annexure C	Permission to Conduct Study at Occupational Health Service Site
Annexure D	Permission from Author for Utilisation of his Questionnaire
Annexure E	Research Questionnaire for the Study
Annexure F	Participant Information Sheet
Annexure G	Participant Consent Letter
Annexure H	Instructions Questionnaire Scoring PSOHP
Annexure I	Confirmation of Sample Size
Annexure J	Editing Certificate

LIST OF FIGURES

FIGURE		PAGE
Figure 4.1	The Shapiro–Wilk test for normality (distribution)	37
Figure 4.2	Distribution of age of participants	46
Figure 4.3	Overall satisfactions with the OHS by job description	47
Figure 4.4	Mean overall satisfaction score by consulting practitioner	48
Figure 4.5	Mean overall satisfaction score by number of times the OHS was used	48
Figure 4.6	Mean overall satisfaction score by education level	49
Figure 4.7	Mean overall satisfaction score by marital status	49

LIST OF TABLES

TABLE		PAGE
Table 4.1	Demographic characteristics of respondents of the study (n=258)	33
Table 4.2	Job description and use of OHS (n=258)	35
Table 4.3	Duration of service in months	36
Table 4.4	Frequencies of overall level of satisfaction (n=258)	36
Table 4.5	Being taken seriously as a patient during this visit	38
Table 4.6	Trust and confidentiality during this visit	39
Table 4.7	Expectations for this visit	40
Table 4.8	Comfort and access	41
Table 4.9	Attitude towards Occupational Health Services in general	42
Table 4.10	Mean and standard deviation of section three of the questionnaire item responses	43
Table 4.11	Internal consistency of the items for each OHP subscale	45
Table 4.12	Multi-linear regression assessing the association between demographic factors and participants overall satisfaction with the OHS	50
Table 4.13	Comparison of employees' responses per subscale	53
Table 4.14	Comparison of employee satisfaction with OHSs in the current study versus the reference satisfaction from the survey of Dutch OHSs	54

NOMENCLATURE

BOHS	Basic Occupational Health Services
CSI	Customer Satisfaction Index
FIOH	Finnish Institute of Occupational Health
HST	Health Systems Trust
ICOH	International Commission on Occupational Health
ILO	International Labour Organisation
IQR	Interquartile Range
MPISF	Mpumalanga Provincial Integrated Spatial Framework
NSDP	National Spatial Development Perspective
OHNP	Occupational Health Nurse Practitioner
OHMP	Occupational Health Medical Practitioner
OHP	Occupational Health Practitioner
OHS	Occupational Health Service
PSOHP	Patient Satisfaction with Occupational Health Practitioner
SASOHN	South African Society of Occupational Health Nurses
SASOM	South African Society of Occupational Medicine
SDF	Spatial Development Framework
TQM	Total Quality Management
WHO	World Health Organisation

CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This chapter provides an overview of the study and the background. The problem statement, research question, as well as the definitions, research design and methods are laid out.

Consumer satisfaction has been a central concept in literature and has an important role in business activity. Consumer satisfaction is one's feeling of pleasure or displeasure regarding the quality of service received in comparison to one's expectations (Angelova & Zekiri, 2011). The foundation of consumer satisfaction and dissatisfaction lies in the ability to learn from past experiences (Isac & Rusu, 2014).

Patient/client satisfaction is of significance in healthcare and occupational health services (OHSs). Smith, Humphreys and Jones (2006) state that patient satisfaction with health services is a matter of increasing importance and attention to heath authorities. Patro, Kumar, Goswami, Nongkynrih and Panday (2008) further state that patient satisfaction surveys are an important component in measuring health outcomes and quality of health care. Sim (2010) agrees that consumer satisfaction is an important aspect of the evaluation of OHSs, as OHSs are different to other types of health services in several respects.

The International Labour Organization (ILO) and the World Health Organization (WHO) jointly define OHSs as essential preventative functions that are responsible for advising the employer, the workers as well as their representatives how to establish and maintain a safe and healthy work environment that will facilitate optimal physical and mental health in relation to work (ILO, 2005).

OHSs are generally rendered by a multidisciplinary team that may include an occupational health nurse practitioner (OHNP), occupational health medical practitioner (OHMP), psychologist, toxicologist, industrial hygienist, safety engineer, employees, employer and union representatives (Michell, 2011).

1.2 OCCUPATIONAL HEALTH AND SAFETY IN SOUTH AFRICA

Occupational health and safety legislation in South Africa has progressively developed in terms of promoting the health of workers.

While different companies in the country execute different policies regarding OHS, the pace of change has remained considerably slow. Jeebhay and Jacobs (1999) are of the opinion that OHS have developed in a fragmented way and lag behind international competitors.

According to the Occupational Health and Safety Act (Act 85 of 1993 as amended) an employer is required to identify any hazards to health and safety attached to a workplace. The White Paper on the Transformation of the Health System (Notice 667 of 1997) states that employers are responsible for funding OHSs for their employees as well as identifying the need for effective interdepartmental co-ordination.

South African OHSs have developed in diverse settings. There is a need for health services in remote settings (such as rural areas and the mining industry). There is also a need for OHSs for inherently dangerous work (such as mining), and there is a need to reduce absenteeism, thereby increasing productivity (Jeebhay & Jacobs, 1999).

OHS provision is largely determined by the extent of occupational injuries and diseases. However, research and information in this area is lacking, as some mining industries are privately insured and other groups of workers are not covered, e.g. domestic workers (Jeebhay & Jacobs, 1999).

No health and safety policy or statutory requirement exists in South Africa to stipulate the provision of OHSs. However the Occupational Health and Safety Act no. 85 of 1993 and the Mine Health and Safety Act no.29 of 1996 have bearing on the delivery of OHSs by requiring medical surveillance as well as work risk assessments. Legislation in South Africa pertaining to OHS includes the Occupational Health and Safety Act no.85 of 1993 as amended, which ensures a safe and healthy environment (excluding the mines); the Compensation for Occupational Injuries and Disease Act no. 130 of 1993, which provides medical compensation and cover for occupational injuries and diseases; the Mine Health and Safety Act no.29 of 1996, which ensures a safe and healthy environment on the mines; the Occupational Disease in Mines Works Act no. 78 of 1973, which ensures compensation for lung diseases only in mines and quarries; and the Medicine and

Related Substance Act no 101 of 1965, which allows nurses to dispense schedule 1–4 substances at workplace health centres with the required permit.

Research shows that OHSs are only available to 10–15% of the working population worldwide (Rantanen, 2005). As the need for OHSs grows, new challenges emerge, along with the new developments in work life and style. Rantanen (2005) suggests that these challenges should be addressed by the WHO/ILO/ICOH (International Commission on Occupational Health) Joint Effort on the Development of Basic Occupational Health Services (BOHS). Regardless of the sector of employment, geographical location or size of workplace, the main objective of the BOHS is to provide OHSs for all working people in the world (Rantanen, 2005).

There are various organisational models for OHSs, which vary according to national and political traditions, general health services and the nature of industrial and economic activities within a region (Acutt & Hattingh, 2012). Rantanen (2005) suggests that various types of industries and groups of workers need to be provided with different models of service provision. The Major Industry Model, which encompasses large units in manufacturing, processing and other large industries, prescribes an on-site occupational health service with a multidisciplinary team (physician, nurses, industrial hygienist, safety engineer, radiographer, physiotherapist and psychologist) (Acutt & Hattingh, 2012).

The Private Health Care Centre model entails privately-owned health centres (mobile or fixed) that provide OHSs not managed by the industries they serve; an advantage of this model as identified by Acutt and Hattingh lies in its flexibility (Acutt & Hattingh, 2012). This model is widely used in the Gert Sibande region of Mpumalanga.

The Group Service Model that encompasses OHS units servicing small and medium sized enterprises not large enough to finance their own individual OHSs is also prominent in the region. According to Acutt and Hattingh (2012) the Group Service Model may serve several different enterprises in a given geographical location. Similarly, Rantanen (2005) and Lehtinen, Rantanen, Elgstrand et al. (2005) state that BOHSs are most likely to be provided by group services that operate in a defined geographical area.

The WHO/ILO/ICOH and FIOH (Finnish Institute of Occupational Health) Guideline of 2009 emphasises the need for various models and provision of OHSs, especially for underserved

sectors, e.g. small enterprises, agriculture, the informal sector, and the self-employed (Rantanen, 2005).

The South African Society of Occupational Medicine (SASOM) and the South African Society for Occupational Health Nurses (SASOHN) are the two main professional bodies that have a responsibility regarding reshaping OHS delivery in South Africa by advocating health promotion and development of OHS (Jeebhay et al., 1999).

1.3 PROBLEM STATEMENT

According to Verbeek, Hisman and van Dijk et al. (2014), occupational health has always remained somewhat outside of mainstream health care, and research in occupational health has focused mainly on the causes of ill health at work, which has led to a significant amount of research studies on occupational exposures.

According to Sim (2010), research studies need to be conducted to evaluate the effectiveness of BOHSs. Sim suggests that one strategy of measuring service effectiveness is through client/patient satisfaction surveys, and furthermore encourages researchers to design better studies in order to help evaluate OHSs and to provide the data in order to underpin standards (2010).

Besser and Bayik (2006) confirm that studies on satisfaction with health care in general are common. However, few studies have been published on client satisfaction with occupational health care. No studies were found on the workers/employees satisfaction with OHSs in South Africa, and the level of satisfaction with the private OHS in this region is not known.

It is within this context of scarcity of research exploring employees' satisfaction with OHS practitioners that the researcher decided to embark on this research journey in the Gert Sibande District. An evaluation of employee satisfaction is an essential part of evaluating the delivery of health care services.

1.4 RESEARCH QUESTION

Are employees satisfied with OHPs in the OHS under study in the Gert Sibande District in the Mpumalanga Province?

1.5 PURPOSE OF THE STUDY

The purpose of this study was to explore and describe employees' satisfaction with the OHPs in one of the OHS in the Gert Sibande District in the Mpumalanga Province.

1.6 RESEARCH OBJECTIVES

The objectives of the study were to:

1. ascertain the specific demographics of employees presenting at the OHS under study
2. ascertain and describe employees' overall satisfaction with the OHPs consultations during their visits
3. describe employees' levels of satisfaction with how they were managed during their visits
4. explore and describe employees' perceptions regarding the OHS environment
5. describe the level of trust in the relationship between the employees and the OHP.

1.7 SIGNIFICANCE OF THE STUDY

It is evident from literature that employee satisfaction with and expectations of available services are considered important indicators of the quality of occupational health care and are important to improving services (Besser & Bayik, 2006). The researcher anticipates that the results of the study will shed some insight on the level of satisfaction with the service provided by the OHP. The findings of the study may assist the service provider to identify priorities for improvement of the OHS. In addition, the study will contribute to the body of knowledge of occupational health, occupational health nursing and quality management. The significance of the study also lies in the fact that no studies were found on worker/employee satisfaction with OHSs in South Africa, and in the research being set specifically in the Mpumalanga province of South Africa.

1.8 OPERATIONAL DEFINITIONS

Employee: Anyone who has agreed to be employed, under a contract of service, and is entitled to receive remuneration in exchange for services performed (Labour Relations Act 66 of 1995). In the context of this study, these are workers either seeking employment or currently employed in various industries, presenting at the OHS under study for medical services.

Occupational health practitioner: In this study, an occupational health practitioner means an Occupational Medical Practitioner (OHMP) or occupational health nurse practitioner (OHNP) who holds a qualification in occupational health recognized by the relevant professional council (Occupational Health and Safety Act 85 of 1993). The OHNP is registered with the South African Nursing Council (SANC) under regulation No. R212 (as amended from No. R74 of 1997).

Satisfaction: The level of contentment felt by individuals regarding how and where a service is offered. Satisfaction also includes an evaluation of health care service based on how it fulfils their expectations (Besser & Bayik, 2006; Verbeek, de Boer, van der Weide, et al., 2005). Satisfaction in this study was measured using the tool by Verbeek et al. (2005) titled *Patient satisfaction with occupational health physicians*, which focuses on overall level of satisfaction, as well as satisfaction measured by five subscales, namely: being taken seriously as a patient, trust and confidentiality, expectations, comfort and accessibility, and attitude towards occupational health services.

Occupational health service: Services provided to employees on matters relating to health and usually assessments, health screening and medical surveillance (Ujah, Bradshaw, Fishwick, & Curran, 2004).

Environment: The aggregate of surrounding things, conditions, or influences (Random House Dictionary, 2017). In the context of this study, environment includes comfort, accessibility and privacy of the OHS.

1.9 DEMARCATION OF THE STUDY

1.9.1 Setting

The study was conducted in one of the comprehensive OHSs in the Gert Sibande District. The Gert Sibande District Municipality is one of five districts of Mpumalanga, South Africa. The municipality changed its name from "Eastvaal" (Afrikaans: Oostvaal) to "Gert Sibande" District Municipality on 15 October 2004 (Gert Sibande Municipality, 2016). According to Gert Sibande Municipality (2016) its total population is 1 043 194 with the majority being Black Africans (88.6%). It is sub-divided into 7 local municipalities (Govan Mbeki, Albert Luthuli, Mkondo, Msukaligwa, Lekwa, Pixleyka Seme and Dipaleseng).

1.9.2 Population

The target population consisted of different employees/workers from various industries (mining, forestry, chemical, farming, construction and so on) in the regions contracted to the OHS under study in the Gert Sibande District.

1.10 RESEARCH METHOD

A cross-sectional study was done from March to October 2016 and data was collected by means of a self-administered questionnaire. The research design and method is described comprehensively in Chapter 3.

1.11 OUTLINE OF THE STUDY

This research report begins with Chapter One, providing an overview with the background and justification for conducting this particular study. Chapter Two gives an overview of the literature reviewed relevant to this study.

Chapter Three provides a detailed description of the research design and methods used in the study. Chapter Four provides a detailed description and discussion of the results.

Chapter Five concludes the research process. The summary of the study as well as the limitations and recommendations are presented.

1.12 SUMMARY

In South Africa various acts and regulations guide the practice of occupational health and a number of service delivery models are used to provide OHSs. To ensure quality of OHSs, client satisfaction should be measured. This chapter presented a brief background of OHSs in South Africa. The problem statement and research question were defined. Also described in this chapter were the operational definitions, purpose of the study and its objectives, as well as the demarcation of study and methods of study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter has a focus on the discussion of the relevant literature pertaining to the topic and study. Satisfaction and quality in service delivery, and the importance and measurement of client satisfaction with OHSs, are described and discussed.

A literature review is a written presentation and representation of publications by academic scholars to convey to the reader what is already known with regards to the topic of interest (Grove & Burns, 2010). Brink, van der Walt and van Rensburg (2012) explain that a literature review helps the researcher to formulate a theoretical or conceptual framework for his/her study, with the relevant study methods and instruments that can be used to measure study variables.

The researcher has done an extensive literature search on the topic and key words from the title to gain an understanding of what is known about OHSs, clients, satisfaction with health care and the quality of OHSs.

Databases and search engines that were used include: JSTOR, CIHNAL, EBSCOhost, Business Dictionary, Google and Google Scholar. The key words used in the search were OHSs, quality, satisfaction and client.

2.2 SATISFACTION AND QUALITY IN SERVICE DELIVERY

2.2.1 The meaning of satisfaction and quality

A client is a person or organisation using the services of a professional person or company (Random House Dictionary, 2016a), whereas a patient is a person currently receiving or registered to receive medical treatment in future (Random House Dictionary, 2016b). Most employees/workers who make use of OHSs are initially seen as healthy and are therefore termed ‘clients’. In some instances, workers are ill and can then be considered ‘patients’.

This section will focus on clients or customers of health services and patient satisfaction in health care service delivery. A customer then is a person who purchases goods or services from a business (Random House Dictionary, 2016 c). In the context of this study, a client/ customer/ patient refers to any person presenting at the OHS for either a routine or new medical screening or a repeat/ follow-up examination or test.

Service can be defined as providing something useful or necessary (Universal Dictionary, 2015a). The act of delivery is producing or handing over goods or services to the intended recipient, or producing results as expected (Universal Dictionary, 2015b). Service delivery is then the provision of public activities, benefits or satisfaction (Public Administration Dictionary, 2016).

Satisfaction refers to an overall positive emotion towards a service provided to the intended recipient in the fulfilment of needs, goals or desires (Angelova & Zekiri, 2011). Customer satisfaction refers to products and services that meet and exceed customers' expectations (Sanjuq, 2014).

Quality can be described as the comprehensive multitude of means by which peoples' needs can be met in terms of service levels and/or the characteristics of a product (Gilbert, 2014). Clients measure their expectations against service quality and performance by comparing their expectations with their perceptions of service (Angelova & Zekiri, 2011). Service quality and customer satisfaction are important concepts that industries and companies must understand and take into consideration if they want to remain ahead (Angelova & Zekiri, 2011).

Crous (2006) states that the challenge of delighting the customer should lead to better treatment and possibly better outcomes than simply conforming to specifications. Where users are actively involved in developing specifications, the service is more likely to at least meet expectations, or even provide pleasure. In addition, Crous (2006) explains that Total Quality Management (TQM) aims to transform the behaviour and interactions of people through their attitudes, with the end result of better quality service. TQM according to Crous (2006) aims to gradually change peoples' behaviour towards the tasks they perform and their attitude towards other people.

Crous (2006) furthermore adds four dimensions of quality, namely: the technical (what?), the non-technical (how?), the environmental (where?) and the democratic dimension (for whom?). This implies that quality services need to do what they are intended to do, be provided in an acceptable

manner, convey the message that customers are valued, and involve customers throughout the process. Crous concludes that a service that conforms to the above-mentioned requirements is reliable and provides useful and relevant information, in a timely, accessible and helpful manner (2006).

The Batho Pele Principles of South Africa focus on eight dimensions, i.e. Consultation, Service standards, Access, Courtesy, Information, Openness and Transparency, Redress, and Value for money (Department of Public Service and Administration, 2014). The importance of customer judgment of service delivery has been recognised by the third Batho Pele principle of putting people first. The Consultation and Redress principles focus on the effects of services on customers, the manner in which the services are provided, and the input-process relationship between the quality of the service and the customer (Crous, 2006)

The Batho Pele Service standard further underlines that users should be told the quality of public service they will receive so that users are aware of what to expect (Department of Public Service and Administration, 2014). A modern challenge is that customers are technologically advanced, being better educated and exposed to more information, which results in being more demanding in the services that they require.

Service delivery can be linked with general welfare, which can be defined as the greatest measure of spiritual and material well-being.

2.2.2 Factors that contribute to client satisfaction and dissatisfaction

Service quality is judged by users based on whether a service empowers them or assists them to achieve a desired outcome (Sanjuq, 2014). Isac and Rusu (2014) are of the opinion that the basis of understanding consumer satisfaction or dissatisfaction lies in the consumers' ability to learn from previous experiences.

In a world where businesses aim to keep customers happy and satisfy them, customers in turn rely on businesses to fulfil their needs and wants. In order to retain customers and keep them happy, Pulido, Stone and Strevel (2014) identify consistency as the 'secret ingredient' required in thought, purpose and action. Consistency is usually one of the least inspirational topics in businesses

(Pulido et al., 2014), yet it is extremely powerful, as consumer choice and empowerment are on the rise.

Literature has shown that customer happiness cannot be ensured with merely individual interaction, but that a customer journey is required. A customer journey entails the process of purchasing a product, using it, being satisfied or dissatisfied, and making a conscious decision about whether to continue using that service or product (Pulido et al., 2014).

Pulido et al. (2014) surveyed 27 000 American consumers across 14 different industries and concluded the importance of effective customer journeys. The study revealed that measuring customer journeys based on satisfaction is 30% more indicative of overall customer satisfaction than measuring happiness with interactions. In addition, maximizing satisfaction throughout customer journeys increases customer satisfaction by 20% and lifts revenue by up to 15% while lowering cost of servicing customers by as much as 20% (Pulido et al., 2014).

Client satisfaction is the result of feelings associated with the care received when compared to the expected care (Ahmed, Shehadeh & Collins, 2013). The same authors further add that demographic variables such as gender, age and education level affect satisfaction, with male, healthier, older and lower-educated clients being more satisfied. Conclusively, client satisfaction has a positive association with the quality of care (Ahmed et al., 2013).

Literature also shows a relationship between demographic variables and education levels affecting satisfaction, as well as addressing needs and improving interaction with them increases their levels of satisfaction (Laos, Di Stefano, Cruz, Caviness & Patel, 2012; Levoy, 2012).

Several authors' studies conclude different determinants of patient satisfaction. One such study is by Quintana et al. (2006) on 'Predictors of patient satisfaction with hospital health care'. In order to identify issues and formulate a questionnaire, focus groups as well as health care professionals included in this study were asked their opinions on positive and negative aspects of care. The questionnaire gathered socio-demographic variables including age, sex, educational level, professional status as well as marital status, and had 34 questions addressing information and communication with doctors, nursing care, comfort, visiting, privacy and cleanliness. Participants rated their satisfaction between 0 and 100 (100 indicating the highest level of satisfaction).

Quintana et al. (2005) concluded that age was statistically correlated with all aspects except the visiting aspects, with higher satisfaction ratings at increased age. Gender was correlated to impressions of comfort and intimacy, with men expressing higher satisfaction. Level of education was directly related to comfort and cleanliness with high satisfaction among those with lower schooling levels e.g. a primary level of education. The authors also concluded that marital status was correlated with the information, human care, intimacy and cleanliness aspects, as those that were married or cohabitating generally had higher levels of satisfaction, except with the cleanliness aspect.

The literature review on patient satisfaction surveys in Al-Abri and Al-Balushi (2013) revealed that male patients older than 50 years of age, patients with a longer length of stay or better health status as well as those with a primary level of education had higher satisfaction scores, and the health status of a patient is an important predictor of a patient's overall satisfaction. The authors also found that ease of access to care, as well as perceptions of nurses' courtesy, respect and careful listening, were highly ranked by patients, in comparison to other independent factors such as physician care, the admission process, physical environment or cleanliness. Their literature review also picked up that the interpersonal communication skills of physicians in terms of their attitude, explanation of conditions, level of care, emotional support, respect for patient preferences and involving patients in making decisions have more influence on patient satisfaction than clinical competence and hospital tangibles.

Angelova and Zekiri (2011) identify several physical factors that affect customer satisfaction, including being friendly, courteous, knowledgeable, and helpful, as well as non-physical factors such as accurate and timely billing, competitive pricing, service quality, good value and quick service. Payment of any kind tends to reduce satisfaction (Ahmed et al., 2013; Cardona, Pinder & Sonenstein, 2014).

Ahmed et al. (2013) note that female and lower-educated clients had had higher levels of satisfaction. Other studies also show that females reported higher levels of satisfaction than males (Johansson, Oleni & Fridlund, 2002; Saila, Mattila, Kaila, Aalto & Kaunonen, 2008). Cardona et al. (2014) also conclude that higher education is associated with lower satisfaction. Other factors influencing satisfaction include accessibility and clinic hours. A 'very convenient' service had lower odds of patients being very satisfied with the services received (Cardona et al., 2014).

A similar study done by Anderson, Barbara and Feldman (2007) asked what patients wanted and identified 7 aspects of satisfaction in healthcare valued by patients. These aspects include:

- access to health care services (good access to health care services with short waiting times);
- communication (providers who are excellent listeners and who take patients' concerns seriously; doctor instils a sense of partnership and provides information in a manner that the patient can understand);
- personality and demeanour of the provider (sincere and warm interactions, establishing a 'bond' with their providers);
- quality of medical care (advocacy in terms of diagnoses and treatment approaches and options, and the amount of time spent with them);
- care continuity (continuous relationship including follow-up care and treatment tailoring and referrals if needed);
- quality of health care facilities (being treated in a convenient, clean, well-organised and modern facility);
- professional, friendly and helpful office staff (patients felt that this added to the total positive experience).

A study by Ahmed et al. (2013) reported that younger clients were more satisfied with nursing care quality, in contrast to several other studies which found that older clients were more satisfied than younger clients (Johansson et al., 2002; Saila et al., 2008; Hekkert, Cihangir, Kleefstra, Van den Berg & Kool, 2009). Paradoxically, Alhusban and Ahualrub (2009) concluded that age had no bearing on client satisfaction.

According to Ahmed et al. (2013) organisations should allow clients to be involved in planning and deciding on their care. A study by Cardona et al. (2014) at a family planning clinic found that the manner in which care was delivered as well as the level of involvement in choosing a family planning method influenced patients' perceptions of quality of care and their satisfaction.

Interacting with clinicians has been found to influence service quality (Ahmed et al. 2013), while overall clinical experience influences satisfaction with services (Cardona et al. 2014).

A study by Mast, Hall, Klochner and Choi (2008) on physicians' nonverbal behaviour related to patient satisfaction found that patients' satisfaction levels were enhanced when physicians are articulate and can correctly interpret patients' nonverbal cues, as well as displaying cordial nonverbal behaviours such as adopting an open posture. The same authors concluded higher satisfaction with other nonverbal cues such as nodding, smiling and using eye contact.

2.3 IMPORTANCE AND MEASUREMENT OF CLIENT SATISFACTION

Client satisfaction is an important indicator of quality care that has the potential to influence patient health outcomes. Godderis, Johannik and Mylle et al. (2014) argue that the current focus on patient satisfaction is on quantity i.e. the number of examinations conducted, rather than quality, i.e. the impact on patients' well-being. Health-care institutions can obtain crucial information by means of assessing client satisfaction, which could be used to improve overall quality of care and services, and thereby ensure that clients comply with their treatment, return to the facility and recommend the institution to others (Ahmed et al., 2013). Notably, satisfied clients communicate their experiences with 5–6 people on average, whereas dissatisfied clients speak to 10 more (Angelova et al., 2011).

Important communication aspects include healthcare provider to patient, patient-centeredness, healthcare provider interpersonal communication skills, and providing effective and useful health education methods (Cardona et al., 2014).

There are various tools that have been developed over the years to measure perceptions and satisfaction in different healthcare settings. The different tools focus on characteristics such as access, environment, number of staff, waiting time, privacy, expectations, competence and attitude of the staff, listening ability, and respect (Karim, Abdullah, Rahman & Alam, 2016).

The concept of quality care encompasses the social, physical and technical framework in which care is rendered (Karim et al., 2016). Although many indices have emerged to ensure client satisfaction, the Customer Satisfaction Index (CSI) measures how companies assess and evaluate their customers' satisfaction against their business performance as well as benchmarking and

tracking customer satisfaction over time (Angelova & Zekiri, 2011). The CSI uses existing customer satisfaction drivers or attributes and applies a hierarchical approach to measure the relationships between the items (Angelova & Zekiri, 2011). This hierarchical approach measures overall satisfaction at the top, above driver attributes (e.g. service frequency) and driver service quality (e.g. timeliness), with operational performance (e.g. 4 services per hour) at its base.

Maintaining and improving the quality of service levels involves continual effort by companies and helps to ensure customer loyalty. Service quality is a powerful gain between competing companies, who should therefore focus on and emphasise the importance of customers' perceptions of service quality (Angelova & Zekiri, 2011).

Expectations and customer satisfaction are closely linked, such that expectations are a person's beliefs that an outcome is based on previous experiences, as found by the Qualtrics Survey (2016). The same survey identifies four variables that can be used to measure satisfaction, namely: importance – the value of the service; satisfaction – the approval or disapproval of the service; expectations – comparison between anticipation and fulfilment; and lastly value – determined by the number of times the service is used.

When patients evaluate the care they receive, it provides health care institutions with the opportunity to improve service, enhance decision-making, reduce medical costs, meet patients' expectations, monitor health care performance and establish benchmarks. Currently, hospitals focus on 'best care always' and are usually patient-centred. However, patient involvement in decision-making engages them in a role as partners in improving the overall quality of health care services. Although other authors dismiss patients' views due to subjective evaluation and potentially unreliable judgement of quality of care (Oyvind, Ingeborg and Hilde, 2011), Al-Abri and Al-Balushi (2013) suggest various qualitative and quantitative questionnaires with good reliability and validity for measuring patient satisfaction, and suggest that the right tool be selected for the study population.

As health care industries are in an increasingly competitive market, health care managers are encouraged to identify factors influencing patient satisfaction (as a means to assess the delivery of quality healthcare) and Al-Abri and Al-Balushi (2013) suggest incorporating dimensions of technical, interpersonal, social and moral aspects of care.

2.4 CLIENT SATISFACTION WITH OCCUPATIONAL HEALTH SERVICES

It is evident from the literature that few studies have been conducted exploring employees' perceptions of the OHS provided. Besser and Bayik (2006) point out that studies on satisfaction with health care in general are common; however, few studies have been published on client satisfaction with occupational health care. Despite the need for research on OHSs and the poor quality thereof, occupational health has been neglected in comparison to other areas of healthcare. Research in occupational health has focused mainly on the medical aspect including ill health and disease prevention as well as occupational exposures (Kwayiba, 2012).

In Africa, studies on human perceptions of occupational health and safety are sparse and tend to focus on issues such as behavioural qualities of workers at the workplace, issues around occupational hygiene, global equity challenges, policies, problem solving, welding health hazards, health education, asbestos problems, responsibility assignment, health and safety, and equity in the workplace (Spee, 2006; Skinner, 2006; Loewenson, 2004; Gyekye & Salminen, 2005).

According to the literature reviewed on the topic, this is what is known on client satisfaction with OHSs and practitioners. Some of the studies exploring satisfaction have looked at how employees evaluate their occupational health service (Bulterys, Johannik, Vlamings & Moens, 2006), employee satisfaction with nursing care (Besser & Bayik, 2006) and patient satisfaction with occupational health physicians (Verbeek et al., 2005).

The Besser and Bayik (2006) study used two mean scores for items on a 39-item scale, i.e. satisfaction with care, and the importance attached to services. Three factors emerged: 1) professional characteristics, 2) protective and preventative health services, and 3) occupational health nurses as care givers, all with a direct bearing on employee satisfaction. Factor 1 concluded that occupational health nurses need basic skills to fulfil their roles and that the effectiveness of occupational health nurses depends on the quality of the relationships they establish with individuals. Factor 2 focused on health education and counselling as identified by OHSs from observations of work environments and employees, and Factor 3 focused on providing care and treatment that involves a wide variety of activities and requires effective use of knowledge and skills (Besser & Bayik, 2006).

Verbeek et al. (2005) developed a questionnaire regarding satisfaction with occupational health physicians (context of the current study). Initially there were three general statements on satisfaction: satisfaction in general, usefulness of the visit, and meeting expectations. In their 2005 pilot study it emerged that additional themes needed to be covered. The final questionnaire consisted of 20 items and 5 subscales ("being taken seriously as a patient", "attitude towards occupational health services", "trust", 'confidentiality" and "expectations"). Participants rated satisfaction of each items on a 5-point Likert-type scale with the answers 1 (totally agree), 2 (agree), 3 (I don't know), 4 (disagree), and 5 (totally disagree). The sample consisted only of patients on sick leave. The overall satisfaction for this study was 71%. The authors concluded that comfort and easy access to the OHS did not influence satisfaction to a great extent, and that communication skills, improvement in the image of OHSs (in terms of trust and confidentiality) and being clearer about what patients could expect have a greater bearing on satisfaction. The highest scoring item was 'the occupational physician treated me in a pleasant manner', while the lowest coring item was 'if my boss would drive me crazy with work I would ask the occupational physician to help me'. Verbeek et al. (2005) suggested the need for the questionnaire to be more widely tested amongst workers seen by OHSs as well as patients that are not sick, and to include an overall satisfaction rating of 1 to 10 (with 10 being the highest level of satisfaction).

2.5 SUMMARY

This chapter gave insight and meaning to the following concepts: satisfaction, dissatisfaction and quality. The literature reviewed and examined, identified the need to research employee satisfaction with OHPs. The literature reviewed further highlighted the importance of identifying factors associated with employee satisfaction and its benefits thereof. It was confirmed by the literature that employee satisfaction is an emerging concern and that research is lacking in this field of occupational health.

CHAPTER THREE

RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

This chapter has a focus on the description of the research design and method. The chapter also addresses the research setting, the population sampling, data collection and its procedure, as well as data analysis. Ethical considerations and principles pertaining to this research are also discussed.

3.2 RESEARCH OBJECTIVES

The objectives of the study were to:

1. ascertain the specific demographics of employees presenting at the OHS under study
2. ascertain and describe employees' overall satisfaction with the OHPs consultations during their visits
3. describe employees' levels of satisfaction with how they were managed on their visits
4. explore and describe employees' perceptions regarding the OHS environment
5. describe the level of trust in the relationship between the employees and the OHP.

3.3 RESEARCH SETTING

'Research setting' refers to the environment in which the research is carried out (Wells 2016). As described by Guidott, Arnold, Lukcso, et al. (2012), an OHS may take the form of an external occupational provider which serves one or many employers, or an internal provider serving one or many employers.

The study was conducted in one of the occupational health service sites in Bethal in the Gert Sibande District of Mpumalanga wherein the external provider renders a service to a number of employees from companies in and around the area.

Bethal in the Gert Sibande District spans the Standerton strip (R38 and R39) where the main economic activities are mining and quarrying, agriculture/ forestry and construction (National

Spatial Development Perspective (NSDP) and Mpumalanga Provincial Integrated Spatial framework (MPISF) 2009). Although Bethal doesn't constitute important economic activities in terms of labour-intensive and mass produced goods, it represents an important economic activity concentration point. Bethal plays a role in the district's agriculture (producing maize, sunflowers, grain, sorghum, wheat, mutton, dairy and wool), with an extensive network of abattoirs, silos, fresh produce markets and four agricultural offices, as well as having a major role in its business activities, with Bethal making one of the largest contributions to both private sector service and retail activities, and public services and administrative activities (Spatial Development Framework (SDF) 2009). Due to the high costs of establishing and maintaining such services, most small businesses rely on external service providers, especially in the Gert Sibande District.

The OHS provider under study is one of seven other similar services in the area servicing approximately 20 different companies (industrial, mining, quarrying, agriculture, forestry and construction). Clients presenting at this OHS are attending either their pre-employment medical examination, annual medical examination or their exit medical examination. Clients commute by private transport or public transport from various surrounding areas.

This OHS offers comprehensive OHSs in the district, namely full health screenings, audiometric and spirometry screenings, as well as vision screening. It is staffed by an OHMP, OHNPs, registered nurses as well as enrolled auxiliary nurses. Employees, referred to as clients in OH, are consulted by or have procedures done by the enrolled auxiliary nurses, registered nurses or OHNPs. Finally, all clients consult with the OHNP for a review of results and tests conducted and should any abnormality be detected, the client is then referred to the OHMP for further management. Between 20 and 40 clients are consulted on a daily basis.

Due to the fragmented nature of services provided, the OHS under study was chosen as it is the only centre in the area that offers comprehensive OHSs. Six other OHSs in the district offer partial services so that the client is forced to consult with another centre to complete their medical. Four of these centres are run by doctors only, while the remaining two centres are run and headed by an OHNP.

3.4 RESEARCH DESIGN

A research design is the set of chronological steps undertaken by the researcher to answer the research question and constitutes the blueprint for the collection, measurement, and analysis of data (Brink, van Rensburg & van der Walt, 2012).

This study made use of a quantitative descriptive cross-sectional study design. A quantitative study design was chosen based on the pre-selected questionnaire developed by Verbeek et al. (2005), and a descriptive design was selected as it is essential when requiring additional information in a particular field and a description of the variables is needed in order to answer the research question. Cross sectional design is usually the simplest and least costly alternative where the researcher observes at one point in time (Neuman, 2006), and data is collected on one occasion only, with different subjects (Brink et al. 2012). In this research, participants who called at the occupational health centre and who met the inclusion criteria were asked to participate and complete the questionnaire. Participants filled in the questionnaire on the same day after their consultation, while awaiting the outcome of their medical surveillance, in the waiting area. Each questionnaire took approximately 10–15 minutes to complete.

The survey method was adopted in this study. Surveys use a written questionnaire to gather information on the background, behaviour, beliefs or attitudes of a large number of people, and the researcher does not manipulate a situation or condition to see how people react (Brink et al., 2012). Brink et al. (2012) goes further to add that the researcher simply carefully records answers from many people who are asked the same questions. Survey research was chosen as the researcher can administer the questionnaires directly to the participants, it is a cheap method, it can be conducted by a single researcher, and the participants can complete the questionnaire when it is convenient for them (within obvious limits).

Disadvantages of survey research include a low response rate, surveys being filled out incompletely, surveying participants who do not meet the inclusion criteria by mistake, being unable to observe participants' reactions and physical characteristics the researcher's lack of control over the conditions under which a questionnaire is completed, and no one being present later on to clarify questions/answers or to probe for more information (Neuman, 2006; Polit & Beck, 2013; Grove & Burns, 2010).

3.5 POPULATION AND SAMPLING

3.5.1 Population

Population refers to a well-defined collection of individuals or objects to have similar characteristics (Brink et al. 2008).

A preliminary audit undertaken from the attendance register showed attendance of between 20 and 40 clients per day. The population served in this study is estimated to be N=1 000–1 500 per month according to the demographic information obtained from the OHS attendance register. For the purpose of this study it was not feasible to use all 1500 workers/employees and therefore the accessible population consisted of workers that were accessible during the data collection time, from March to October 2016.

3.5.2 Sample size and sampling

According to Brink et al. (2008), a sample is a defined part of the population selected by the researcher to participate and engage in the research study.

- Sample size

The sample size was calculated by taking the average monthly attendance (1250) and using the web-based Raosoft (2004) Computer Sample Size Calculator at 95% level of confidence and allowing for a marginal error of 5%, a sample size of 295 was calculated for the study. However, a sample size of 258 was deemed sufficient by a biostatistician from the Medical Research Council as confirmed by e-mail on 2016/08/30 (Annexure I).

- Sampling method

This study used a non-probability convenience sampling method, which according to Brink et al. (2008) involves the selection and choice of readily available subjects for the study.

3.5.3 Sampling procedure

This is the process of selecting a group of the population to represent the entire population (Polit and Beck, 2013).

Clients presenting at the selected OHS who met the inclusion criteria were asked to participate in the study.

The inclusion criteria were:

- Clients must be above 18 years old.
- Clients must be proficient in reading and writing in English.

The exclusion criteria for this study were:

- Clients being younger than 18 years.
- Clients being unable to read and write in English.

3.6 DATA COLLECTION

Data collection is normally done according to a pre-established plan whereby the researcher contacts the subjects and any agencies involved to explain the study and to obtain their written, informed consent (Brink et al. 2008).

Questionnaires were handed out to clients coming into the OHS who met the inclusion criteria. While waiting to be consulted, the clients were briefed on the study and the value thereof. The process of filling in the questionnaires was explained, as well as the confidential nature of the information. Clients were requested to fill in only one questionnaire. The researcher then handed out all questionnaires and was available to answer any queries regarding the questionnaire. Staff of the OHS was also briefed on the process of data collection in order to assist if the need arose. Staff were also asked to assist in making sure that the questionnaire was only filled in once by each client as they (the staff) were able to recognise the regular and new clients coming into the facility. Completed questionnaires were placed into a clearly marked sealed box at the reception. Data collection took place between March and October 2016.

3.6.1 Data collection instrument

Data was collected by means of a self-administered questionnaire developed by Verbeek et al. (2005): “Patient satisfaction with occupational health physicians” (PSOHP), which was tested in

an OHS of a large academic hospital. In addition, the guidelines and data capturing sheets from the developer were also used.

The questionnaire consisted of three sections. The first section had nine questions pertaining to demographic data and the use of the OHS, including age, gender, marital status, highest level of education, description of job, usage of the OHS, and whom they were consulted by.

The second section consisted of an overall satisfaction rating with the OHP of between 1 and 10, with 1 being least satisfied and 10 being highly satisfied. The third section asked questions pertaining to "being taken seriously as a patient", "trust and confidentiality", "expectations of the visit", "comfort and access" and "attitude towards occupational health services", with a total of 20 items on a five-point Likert scale. The score ranged from one (totally agree) to five (totally disagree). Items 7 and 8 had a reverse scoring in which a rating of 1 was re-coded to a 5, 2 to a 4, etc. (see Annexure H).

3.6.2 Instrument use and changes

Permission to use the PSOHP tool was obtained by the authors (Annexure D). The following changes were made to the tool:

- A satisfaction rating of 1–10 was included at the beginning of the PSOHP questionnaire. This was recommended by Verbeek et al. (2005).
- "OP" was changed to "OHP" to suite the South African context.
- The 5 subscales in Verbeek et al. (2005) study queried satisfaction about a previous consultation. This study queried satisfaction with the current consultation, so as to avoid potential loss of true information.
- Item 18 was reworded for ease of interpretation. "If my boss drove me crazy with work, I would ask the OP to help me", was changed to "I would ask the OHP to help me if I experience work-related stress."

3.6.3 Reliability and validity of the instrument

The "PSOHP" questionnaire was developed and tested on 432 patients. The subscales showed sufficient reliability and predicted the general satisfaction rating with 71% of variance. Reliability of an instrument is of great importance, as a reliable tool is able to yield same results when used by different researchers under the same conditions (Brink et al. 2012). Reliability was considered adequate if 0.70, good if 0.80, and excellent if 0.90 (Verbeek et al., 2005). According to Nunally (1978) as cited by Peterson (1994), recommends that the minimally acceptable reliability for basic research should be 0.8. This study had high alphas for all 5 subscales, ranging from 0.73–0.95, in which reliability was considered adequate to excellent.

This study had a high response rate of 89%, which is crucial as high response rates decrease the potential for bias and lowers the risk to threaten the validity of the study (Kongsved et al., 2007). Validity ascertains whether an instrument or tool accurately measures what it supposed to (Brink et al., 2012).

Pre-testing of the questionnaire was conducted on 10 employees/clients that were not included in the main study. This was done in order to ascertain whether the questionnaire could be well understood and answers completed in a manageable length of time, as well as to establish internal consistency in consultations with a statistician. All 10 participants filled in the questionnaire completely and it was assumed that the questionnaire was well understood with no queries or concerns regarding answering of the questionnaire. Verbeek et al. (2005) had also conducted a pre-test with four randomly-chosen patients of an OHS who had consulted with their occupational physician, in order to determine feasibility and understanding of the questionnaire before furthering their research into developing a final questionnaire.

Reliability was ensured by making use of random participants. If participants needed help with understanding any of the question items, the researcher was present to clarify, to reduce the chances of misinterpretation and incorrect responses, thereby increasing reliability of the data, and overall validity of the study. Reliability of the study results were ensured by using the developers' guidelines on data analysis and a data capturing sheet in an Excel spreadsheet provided by Verbeel et al. (2005).

3.6.4 Data collection procedure

During the data collection period, the researcher went to the OHS to request to address employees attending the OHS. The nature of the study was explained verbally and by distributing the Patient Information Letter (Annexure C). The data collection method and the measures for ensuring confidentiality and anonymity were explained. The clients were informed that data collection would take place after the consultation with the OHMP or the OHNP. Employees who agreed to participate in the study were requested to sign the participant consent letter (Annexure D) which was kept separate from the filled-in questionnaire. The researcher handed out questionnaires in a sealed envelope and requested that the filled-in questionnaires should be returned in the same envelope and placed in a clearly-marked box in the reception area. This box also served as an added measure to ensure confidentiality and anonymity of participants. The researcher was present and available to give clarity during the data collection period.

The questionnaire return box was emptied daily at the health service during the data collection period.

3.7 DATA ANALYSIS

During the data analysis phase the researcher chooses methods of organising raw data gathered during the data collection phase (Brink et al., 2012). Data can be displayed in a fashion that will provide answers to the research questions by means of categorising, ordering, manipulating and summarising (Brink et al., 2012). In addition, the researcher also needs to describe the raw data using meaningful terms.

Data was captured using the Verbeek et al. (2005) guidelines as well as the data entry spreadsheet provided (Annexure H), bearing in mind that items 7 and 8 of the questionnaire had reverse scoring and had to be decoded. Data was then imported into STATA version 14.1 for management and data analysis. The following tests were used in the study:

Descriptive statistics are used to describe and summarise data by means of visual representation or pictures to add meaning for the research report (Brink et al., 2012).

Descriptive analysis was conducted. Percentages, mean and standard deviation were used to determine variability, and frequency tables were computed to give the proportions of each of the demographic categories.

Cronbach's Alpha was used to determine the internal consistency of the items for each of the subscales. Then the Shapiro Wilk test was used to check the distribution of each of the subscales through computing for normality and the central tendency measures of each subscale. The Shapiro Wilk test was also used to check the distribution of the variable on overall satisfaction to determine the appropriate central tendency measure to report on.

The mean and standard deviation for each scale was computed and the distribution of each for each subscale was assessed based on the way the participants responded.

A multi-linear regression model was used to further ascertain participants' overall satisfaction levels with the OHPs consultation on their visit as well as to determine the association between demographic factors (age, sex, marital status, level of education, job description, duration in job description, usage of the OHS and who employees were consulted by upon visit) and ratings on overall satisfaction with the OHP.

A test of comparison of means (ANOVA i.e. analysis of variance) was used to ascertain the relationship between demographic factors and overall satisfaction score was further explored by plotting bar graphs of mean overall satisfaction scores among different demographic categories.

The second step of the analysis was to group the items of the questionnaires into the following five subscales, namely: taken seriously, opinion on OHS, trust, expectations, access and comfort. These subscales were used to fulfil the objective of exploring employees' perception regarding the OHS. The subscales were created in accordance with the instructions on scoring the PSOHP questionnaire. (Appendix H).

Lastly, a proportion test was used to compare the proportion of respondents that agreed to the questionnaire items vs. those that disagreed. All observations in which the response 'I don't know' was given were recorded as missing values for this section of the analysis.

An ANOVA test was used to test the significance of mean scores differences, comparing to the means of a survey of Dutch Occupational Health services as a reference, and the mean scores of the participants of the current study so as to ascertain if the results could be generalised or refuted.

3.8 ETHICAL CONSIDERATIONS

3.8.1 Institutional approval

Permission and ethical clearance to conduct the study was given by the Human Research Ethics Committee (Medical) and the Post Graduate Committee of The University of the Witwatersrand (Annexures F and G). Permission to conduct the study was granted by the contracted occupational health service company (Annexure E).

3.8.2 Participant consent

Verbal and written information was given to prospective participants, explaining who the researcher is and the purpose of the study. Participants who agreed to participate in the study were given questionnaires to fill in (Annexures C and D). Participants were informed that the study would require filling in a demographic profile questionnaire without names or other explicitly identifying data; the answers ticked on the questionnaire would be included in the study, but the identity of the participants would be protected, and furthermore, the filled-in questionnaires would be allocated numbers and kept separate from the signed consent letter.

All completed questionnaires were kept in a locked safe place in the researcher's and supervisor's office during the data analysis process and for safe-keeping. The computer analysed data were password-protected and accessed only by the researcher and research supervisor.

3.9 ETHICAL PRINCIPLES

According to Brink et al. (2012) ethical principles are based on human rights and need to be protected at all times. The following ethical principles were abided by:

- Clients' participation in the study was totally voluntary. Non-participants were not treated in a different or biased manner, and participants were allowed to withdraw from the study at any time.
- Every client presenting at the OHS under study who met the inclusion criteria was allowed to participate in the study. All participants were treated fairly.
- Participants were made aware upfront that their information was strictly confidential, and that names, ID numbers or employee numbers were not necessary for the study; therefore, anonymity was maintained.
- Participants were asked to read the letter about the study informing them of the nature and need for the study (Annexure C) and were asked to fill in an informed consent letter (Annexure D).
- There was no conflict of interest in conducting the study. A letter of approval to conduct the study at the OHS was obtained.
- Health care professionals at the OHS were asked to assist in handing out the questionnaires and in answering potential questions raised by the participants without losing objectivity in the study. These competent professional nurses were debriefed extensively on the nature of the study as well as its methods.
- Finally, there was no conflict of interest between the competent professional nurses who assisted in the data collection period.

3.10 SUMMARY

This chapter dealt with the research design followed in this study. The population, sampling procedure, data collection, data collection instrument and procedure were also addressed. Reliability and validity of the instrument was delved into.

CHAPTER FOUR

RESULTS AND DISCUSSION OF RESULTS

4.1 INTRODUCTION

This chapter describes the data preparation and approach to data analysis of the results. Results are presented in tables, graphs and descriptive forms and discussed in terms of the sections of the questionnaire: namely demographics, use of OH service, satisfaction with the subscales and overall satisfaction. Descriptive, comparative and inferential statistical tests used in this study are explained and interpretations of findings as well as the discussion are also presented.

4.2 DATA PREPARATION

The data collection process was facilitated manually using the PSOHP questionnaire designed by Verbeek et al. (2005). The data collected was entered into an Excel spreadsheet for preparation. To prepare the data for analysis, the data entry cells were checked for any missing data and errors in recording. Study variables were then grouped and coded to meet the objectives of the study. The ages of the participants were recorded as categorical variables (<20 years/ 21–30 years/ 31–40 years/ 41–50 years/ 51–60 years/ 61+ years). Grouping of the continuous variable 'age' was done purely for descriptive statistics for ease of interpretation. The gender of the participants was recorded as a binary variable (female/ male). The marital status of the participants was recorded as a nominal categorical variable (never married/ married/ divorced/ widowed/ living with partner). The variable 'education' was recorded taking into consideration the grade of the participant; however, for analysis purposes the variable 'education' was divided into 3 categories (primary/ secondary/ tertiary). A primary level of education refers to a Grade 5–8 qualification, secondary to a Grade 9–12 qualification, and any qualification above Grade 12 was ranked as a tertiary level of education (i.e. Certificate, Diploma, Degree or Masters). The description of the respondents' jobs was recorded as a binary variable (employee/ manager). The data on whether participants used the OHS in the past year, the last time the participants used the OHS and the type of practitioner they were consulted with (enrolled auxiliary, professional nurse, occupational health nurse or medical doctor), were recorded as categorical variables, and are presented in the results section of this report. Items 7 and 8 of the questionnaire had to be reverse scored as per Verbeek et al.'s

instruction (2005) on data analysis (Annexure H), in which a score of 1 was reversed to 5, 2 to4, 4 to 2, and 5 to 1, while 3 remained 3.

4.3 APPROACH TO DATA ANALYSIS

Data were analysed using STATA 14.1. The first part of data analysis used descriptive analysis on data collected using the first section of the questionnaire, i.e. demographics. Descriptive statistics describe and summarise data by condensing it and converting it into visual representations, in order to give meaning to the data (Brink et al., 2012). Frequency tables were computed to obtain the proportions of each of the demographic categories. The second step of the analysis was to ascertain employees' overall satisfaction with the OHS on the current visit. To obtain this information, participants were asked to rate their consultation visit between 1 and 10, where 1 represented being least satisfied and 10 represented being highly satisfied. The distribution of the variable on overall satisfaction was checked using the Shapiro–Wilk test for normality to determine the appropriate central tendency measure to ascertain the specific demographics of employees presenting at the occupational health service.

To further ascertain participants' overall satisfaction with the OHP's consultation, a multi-linear regression test was conducted. This test is used in order to show how well a set of variables reduces errors in a measurement of R-squared, as well as measuring the direction and size of the effect of each variable on a dependent variable (Brink et al., 2012). In this study, this test (multi-linear) was fitted as a measure of effect to determine the association between demographic factors (age, sex, marital status, level of education, job description, duration in job, last usage of the OHS and whom employees were consulted by) and rating of the overall satisfaction with the OHS. The relationship between demographic factors and overall satisfaction score was further explored by plotting bar graphs of mean overall satisfaction scores among different demographic categories and running tests of comparison of means (the ANOVA test and t-test were appropriate). According to Brink et al. (2012) an ANOVA test allows the researcher to compare multiple means simultaneously, while using variances to calculate a value that mirrors the differences between the multiple means, whereas a t-test compares the means of two groups to ascertain whether the difference between the means is significant or is a result of chance (Brink et al. 2012). Mean is the

average of the scores and is calculated by adding all the data points in a population and then dividing the total by the number of points (Brink et al, 2012)

The third and final aspect of the analysis was to group the items of the questionnaire into the following five subscales, namely: *being taken seriously*, *opinion of OHS*, *trust*, *expectations*, and *accessibility and comfort*. These subscales were used to fulfil the objective of exploring employees' perceptions regarding the OHS. The subscales were created in accordance with the instructions on scoring the PSOHP questionnaire (Appendix H). Items 7 and 8 of the questionnaire had reverse scoring and had to be decoded, wherein responses were reversed. To test internal consistency of the items for each subscale, the Cronbach's alpha statistic was computed. The distribution of each subscale was checked through computing the Shapiro–Wilk test for normality and the central tendency measures of each subscale. A comparison of the mean scores of a survey of Dutch Occupational Health services was used, as a reference (see Annexure H) and the mean scores of the participants of the current study were computed in order to see if there were any differences in mean scores of the subscales, via a t-test.

Lastly the distribution of each subscale was assessed. For a comprehensive analysis of the satisfaction of employees with the OHS based on the way the participants responded, the mean and standard deviation for each scale was computed. To determine the difference in proportions between participants that agreed to the items in each subscale and those that disagreed, factor analysis was computed to reduce the responses to 'agree' and 'disagree'. Numbers 1 (totally agree) and 2 (agree), were grouped and classified as 'agree', while numbers 4 (disagree) and 5 (totally disagree) was grouped and classified as 'disagree'. All observations in which the response 'I don't know' was given, were recorded as missing values for this section of the analysis. A proportions test was used to compare the proportion of respondents that agreed to the questionnaire items versus those that disagreed.

4.4 OBJECTIVES ACHIEVED BY STATISTICAL ANALYSIS

The Shapiro–Wilk test was used to test for distribution of normality to determine the appropriate central tendency of overall satisfaction.

A multi-linear regression test was conducted in order to ascertain participants' overall satisfaction with the OHP's consultation. This test measures the effect of each variable (in this case demographics) on the dependent variable (overall satisfaction).

An ANOVA test and t-test were done to compare the mean overall satisfaction scores between the different demographic categories.

A multi-linear regression test was also used to determine the association between demographic factors and overall satisfaction with the OHPs.

A Shapiro–Wilk test (to test for normality and central tendency measures) was done for each subscale to determine its distribution.

4.5 PRESENTATION OF THE RESULTS AND DISCUSSION

4.5.1 Section 1: Demographic and workplace data

The first section of the questionnaire asked respondents to provide basic information on their sex, age, marital status and qualifications. Furthermore, information was asked regarding when last they used the OHS as well as which practitioner they consulted with and the number of times they had used the OHS.

Table 4.1 displays the frequency distribution of the respondents of the study based on demographic characteristics (n=258).

Table 4.1: Demographic characteristics of respondents to the study (n=258)

Characteristic	Frequency	Percentage (%)
Age group		
<20 years	6	2.3
21–30 years	92	**35.7**
31–40 years	106	**41.1**
41–50 years	44	17.0
51–60 years	9	3.5
61+ years	1	0.4

Gender		
Female	46	17.8
Male	212	**82.2**
Highest level of education		
Primary	13	5.0
Secondary	157	**60.9**
Tertiary	88	34.1
Marital status		
Never married	**118**	**45.7**
Married	98	38.0
Divorced	3	1.2
Widowed	3	1.2
Living with partner	36	13.9

Of the total sample (n=258), the results indicated that 76.8% (n=198) of the respondents were in the age-group 21–40 years. Males comprised 82.2% (n=212). Just under half (45.7%) reported to have never been married. A majority of 60.9% (n=157) of the respondents had attained a secondary school education qualification.

Table 4.2: Job description and use of OHS (n= 258)

Characteristic	Frequency	Percentage (%)
Job description		
Employee	**212**	**81.8**
Manager	46	18.2
Usage of occupational health service in the last 12 months		
None	**112**	**43.4**
Once	98	38.0
Twice	28	10.9
Thrice	5	1.9
Four times	7	2.7
Five times or more	8	3.1
Last use of occupational health service		
Never	107	**41.5**
Within the last 7 days	4	1.5
A week ago	8	3.1
A month ago	9	3.5
6–12 month ago	62	24.0
12–18 months ago	68	**26.4**
Today I was consulted by		
Occupational health nurse practitioner	225	87.5
Professional nurse	13	5.1
Enrolled auxiliary	18	7.0
Medical doctor	1	0.4

Table 4.2 reflects that 81.8% of respondents were employees, 50.8% of respondents reported to have used the OHS thrice or less, and 43.3% had not used the OHS in the last 12 months. The majority of the respondents (87.5%) were consulted by an OHNP.

The questionnaire also queried duration of service; results are given in Table 4.3:

Table 4.3: Duration of service in months

	Duration of service	
Gender (n)	**Mean in months**	**SD**
Male (212)	25.59	27.41
Female (46)	59.23	71.00

Table 4.3 showed that males had worked a mean of 25.59 months at their employment, while females had worked a mean of 59.23 months.

4.5.2 Section 2: Overall satisfaction with occupational health practitioner

This section determined the overall level of satisfaction with the OHS, with a rating of 1 to 10. One (1) meant least satisfied while 10 represented being highly satisfied.

Table 4.4: Frequencies of overall level of satisfaction (n=258)

	Frequency	**Percentage %**
1 (least satisfied)	0	0
2	0	0
3	0	0
4	3	1.16
5	8	3.1
6	4	1,5
7	10	3.8
8	24	9,3
9	76	29.4
10 (highly satisfied)	133	51,55
Total	**258**	**100%**

Overall level of satisfaction was 9.06, as calculated by the above responses' sum total and divided by the numbers of responses, as per Verbeek et al. (2005).

The Shapiro–Wilk test for normality (distribution) revealed the data on overall satisfaction to be right-skewed (p=0.000), with a median score of 10 (IQR=1), implying that respondents were highly satisfied with the occupational health practitioners at this OHS centre. According to Brink et al. (2012), the median can be defined as the midpoint value, which is ranked from lowest to the highest, and IQR as a measure of spread of the distribution of the values. It is evident that the median is greater than the mean and therefore the data are "skewed to the right", with low scores pulling the mean down more than the median.

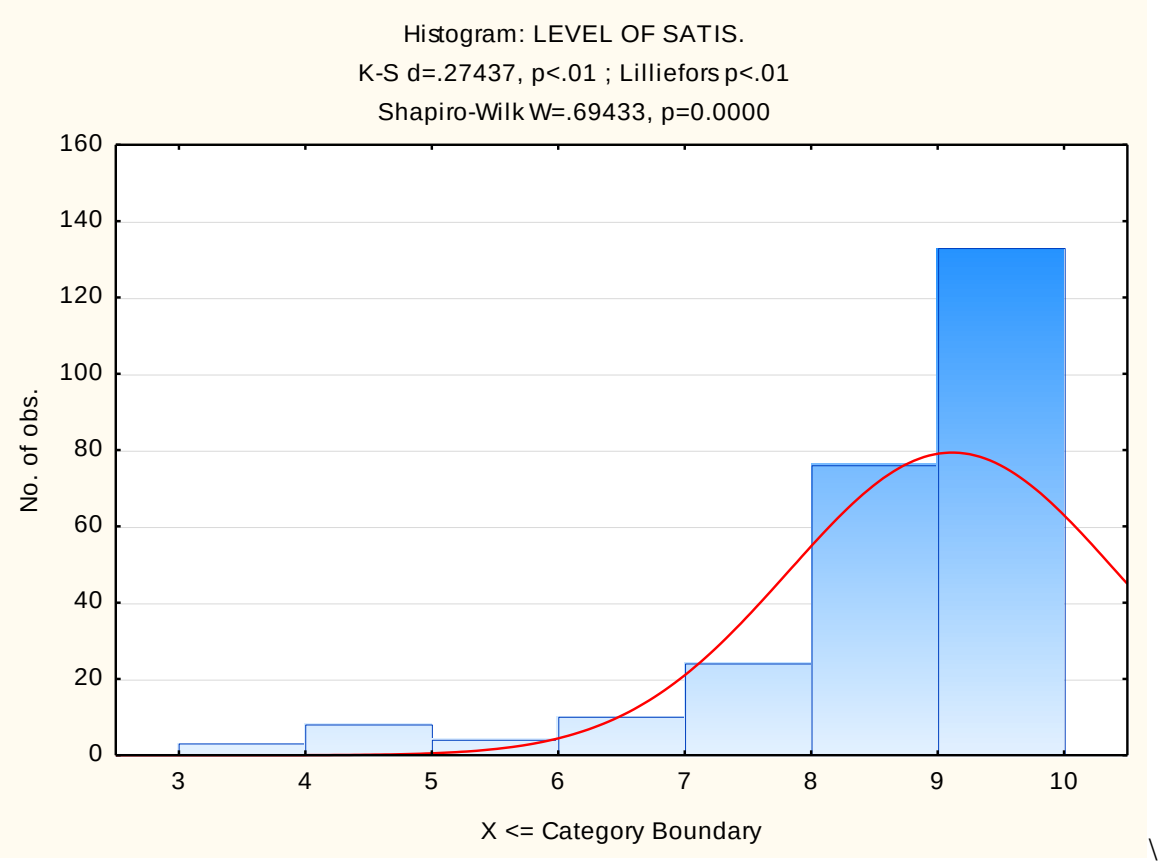


Figure 4.1: The Shapiro–Wilk test for normality (distribution)

4.5.3 Section 3: Questions pertaining to the subscales of the questionnaire

This section of the questionnaire comprised of items related to: *being taken seriously as a patient during this visit*, trust *and confidentiality during this visit, expectations for this visit, comfort and accessibility of this visit* and *attitude towards Occupational Health Services in general*. A total of

20 items had to be answered were measured on a 5-point Likert Scale. The score ranged from one to five, i.e. from totally agree (one) to totally disagree (five).

4.5.3.1 Frequencies and percentages pertaining to section three of the questionnaire

Table 4.5: Being taken seriously as a patient during this visit

	SCORE	FREQUENCY	PERCENTAGE%
1. The OHP understood well what my health problems and/ or problems with work were	1	7	2.71
	2	10	3.88
	3	8	3.10
	4	100	38.76
	5	133	51.55
2. The OHP treated me in a pleasant manner	1	3	1.16
	2	4	1.55
	3	6	2.33
	4	105	40.70
	5	140	54.26
3. The OHP knew what he/she was talking about during the conversation	1	6	2.33
	2	3	1.16
	3	4	1.55
	4	107	41.47
	5	138	53.49
4. The OHP gave me good advice about my health	1	7	2.71
	2	14	5.43
	3	5	1.94
	4	105	40.70
	5	127	49.22
5. The OHP seemed professional	1	4	1.55
	2	4	1.55
	3	4	1.55
	4	103	39.92
	5	143	55.43

Table 4.5 depicts that majority of responses were >4, implying that respondents felt satisfied that they were *being taken seriously* as a patient.

Table 4.6: Trust and confidentiality during this visit

	Score	Frequency	Percentage
6. For this visit, I could count on a confidential treatment of my complaints by the OHP	1	3	1.16
	2	5	1.94
	3	12	4.65
	4	107	41.47
	5	131	50.78
7. I was on my guard during the conversation with the OHP	1	44	17.05
	2	51	19.77
	3	16	6.20
	4	67	25.97
	5	80	31.01
8. During this visit I was afraid that the OHP would tell my complaints to the employer without my consent	1	56	21.71
	2	51	19.77
	3	24	9.30
	4	49	18.99
	5	78	30.23

Table 4.6 shows that most participants felt satisfied (score >4) with *trust and confidentiality* aspects during their visit. Questions 7 and 8 yielded a disperse array of responses from a rating of 1–5.

Table 4.7: Expectations for this visit

	Score	Frequency	Percentage
9. I had clear expectations for this visit with the OHP	1	4	1.55
	2	10	3.88
	3	7	2.71
	4	110	42.64
	5	127	49.22
10. I had an appointment with the OHP	1	8	3.10
	2	25	9.69
	3	14	5.43
	4	94	36.43
	5	117	45.35
11. It is clear for what reasons you can make an appointment with the OHP	1	8	3.10
	2	14	5.43
	3	9	3.49
	4	104	40.31
	5	123	47.67

Table 4.7 shows that participants agreed that items in this subscale satisfied their expectations for their visit as most responses were >4.

Table 4.8: Comfort and access

	Score	Frequency	Percentage
12. The Occupational Health Service was easily accessible (location, public transport, parking, etc.)	**1**	5	1.94
	2	12	4.65
	3	5	1.94
	4	104	40.31
	5	132	51.16
13. The waiting room was comfortable	**1**	2	0.78
	2	10	3.88
	3	11	4.26
	4	106	41.09
	5	129	50.00
14. The consultation room was tidy	**1**	8	3.10
	2	15	5.81
	3	7	2.71
	4	101	39.15
	5	127	49.22
15. The visit went on without disturbances from outside	**1**	1	0.39
	2	3	1.16
	3	8	3.10
	4	110	42.64
	5	136	52.71

Table 4.8 shows that for subscale 4, *comfort and access*, the majority of responses were >4, indicating that participants were satisfied in terms of accessibility, comfortability, tidiness and lack of disturbances.

Table 4.9: Attitude towards Occupational Health Services in general

	Score	Frequency	Percentage
16. If I would get work-related health complaints, I would make an appointment with the OHP	1	4	1.55
	2	9	3.49
	3	19	7.36
	4	106	41.09
	5	120	46.51
17. I would advise a colleague with work-related health complaints to see the OHP	1	3	1.16
	2	4	1.55
	3	20	7.75
	4	107	41.47
	5	124	48.06
18. I would ask the OHP to help me if I experience work related stress	1	5	1.94
	2	12	4.65
	3	28	10.85
	4	94	36.43
	5	119	46.12
19. If I would be unable to work because of back pain I would ask the OHP for help	1	5	1.94
	2	11	4.26
	3	24	9.30
	4	100	38.76
	5	118	45.74
20. If I would be unable to work because of mental health problems I would ask the OHP for help	1	4	1.55
	2	11	4.26
	3	24	9.30
	4	101	39.15
	5	118	45.74

Table 4.9, regarding the *attitude* subscale reveals that most respondents were satisfied with all the items (16–20) with regards to their complaints being addressed, seeking help, and referring colleagues.

Table 4.10: Mean and standard deviation of section three of the questionnaire item responses

Questionnaire item	Mean	Std. Dev.
Being taken seriously as a patient during this visit		
Q1 "The OHP understood well what my health problems and/ or problems with work were"	4.33	0.92
Q2 "The OHP treated me in a pleasant manner"	4.45	0.73
Q3 "The OHP knew what he/she was talking about during the conversation"	4.43	0.79
Q4 "The OHP gave me good advice about my health"	4.28	0.95
Q5 "The OHP seemed professional"	4.46	0.75
Trust and confidentiality during this visit		
Q6 "For this visit, I could count on a confidential treatment of my complaints by the OHP"	4.39	0.77
Q7 "I was on my guard during the conversation with the OHP"	3.34	1.51
Q8 "During this visit I was afraid that the OHP would tell my complaints to the employer without my consent"	3.16	1.56
Expectations for this visit		
Q9 "I had clear expectations for this visit with the OHP"	4.34	0.84
Q10 "I had an appointment with the OHP"	4.11	1.08
Q11 "It is clear for what reasons you can make an appointment with the OHP"	4.24	0.98
Comfort and accessibility of this visit		
Q12 "The Occupational Health Service was easily accessible (location, public transport, parking, etc.)"	4.34	0.88
Q13 "The waiting room was comfortable"	4.36	0.80
Q14 "The consultation room was tidy"	4.26	0.98
Q15 "The visit went on without disturbances from outside"	4.46	0.65

Attitude towards Occupational Health Services in general		
Q16 "If I would get work-related health complaints, I would make an appointment with the OHP"	4.28	0.86
Q17 "I would advise a colleague with work-related health complaints to see the OHP"	4.34	0.78
Q18 "I would ask the OHP to help me if I experience work-related stress"	4.20	0.95
Q19 "If I would be unable to work because of back pain I would ask the OHP for help"	4.22	0.92
Q20 "If I would be unable to work because of mental health problems I would ask the OHP for help"	4.23	0.90

Standard deviation is a measure of dispersion for one variable which is based on the mean and gives an "average distance" between all scores and the mean, which is used for comparison purposes (Neuman 2006).

The results in this study showed that the all the items (1–5) pertaining to subscale 1: *Being taken seriously as a patient during the visit* had the mean score of >4. This result is indicative of participants agreeing to questionnaire items, which implies that the participants were satisfied with being taken seriously as a patient during their visit.

For the second subscale, *trust and confidentiality during this visit*, while the participants of the study's mean score shows that most of the participants agreed to questionnaire item 6 (mean>4), the participants seemed to be unsure about questionnaire items 7 and 8 (mean score ~3). Regarding the questionnaire items for the following subscales: *expectations for this visit*, *comfort and accessibility of this visit* and *attitude towards occupational health service*, the participants of the study seemed to agree (mean score >4).

4.6 COMPARATIVE AND INFERENTIAL TESTING

4.6.1 Reliability and accuracy of the subscales

Cronbach's alpha is a measure of internal consistency; that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is uni-dimensional.

Table 4.11: Internal consistency of the items for each OHP subscale

Scale	Cronbach's alpha
Being taken seriously	0.9124
Opinion of OHS	0.9530
Trust	0.7361
Expectations	0.8562
Accessibility and comfort	0.8192

Table 4.11 shows the Cronbach's alpha coefficients to test the reliability of the items in each of the sub-scales listed above. Acceptable Cronbach alphas range from 0.70 to 0.90, whereas an increase in the estimate of reliability results in a decrease to the fraction of the test score that is attributable to error (Tavakol & Dennick, 2011). Furthermore, low alphas could be attributable to a low number of questions and high alphas may suggest that items are redundant. Verbeek et al. (2005) further adds that reliability is considered adequate if >0.70, good if >0.80 and excellent if >0.90. In this study, Table 4.11 indicates that the items that make up the subscale were of an adequate reliability (Cronbach's alpha > 0.70) and the rest of the items for the rest of the scales had good reliability (Cronbach's alpha > 0.80), while the items that make up the 'Taken seriously' scale had excellent reliability (Cronbach's alpha > 0.90) and were closely related to each other.

4.6.2 Distribution of the sample

The figure below shows the distribution of the participants age treated as a continuous variable.

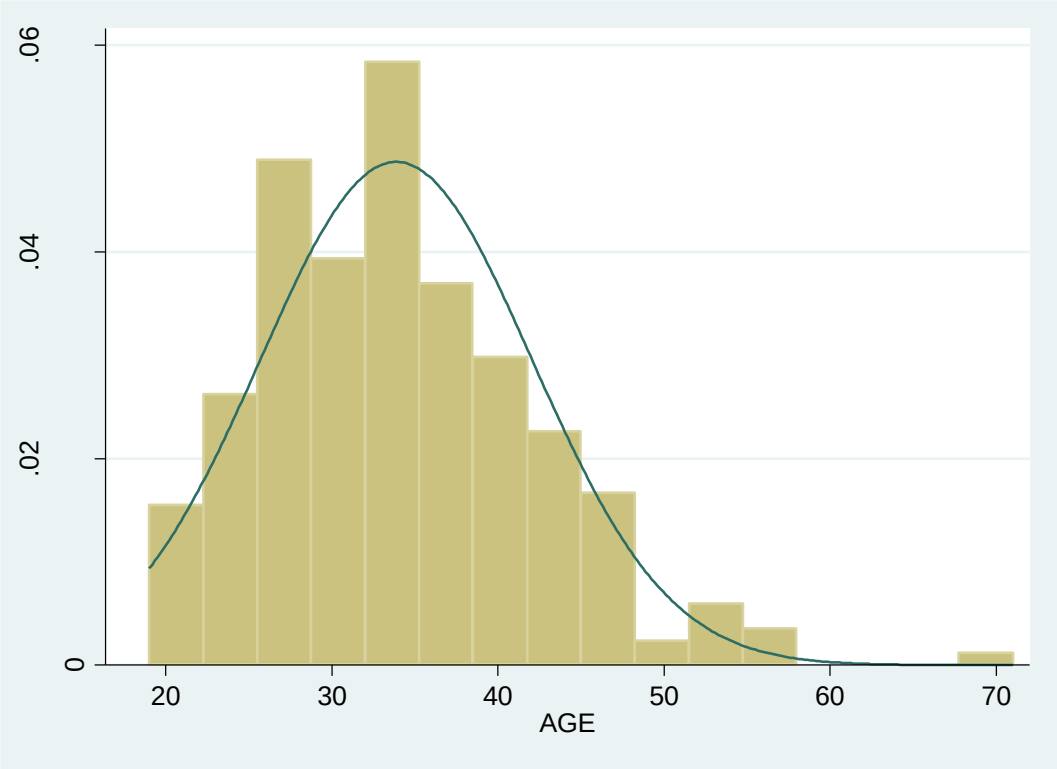


Figure 4.2: Distribution of age of participants (p=0.000)

Figure 4.2 shows that the age data was left skewed, hence most participants were between the ages of 30 and 50 years. The median age of the participants was 33 years (IQR=12 years). According to Brink et al. (2012), median can be defined as the midpoint value, which is ranked from lowest to the highest, and IQR as a measure of spread of the distribution of the values.

4.6.3 Differences in mean scores between demographic characteristics and overall satisfaction scores

Figure 4.3 shows the mean scores of overall satisfaction with the OHS by job description. The t-test revealed that there was a statistically significant difference between the mean score of the employees as opposed to the managers (p=0.000).

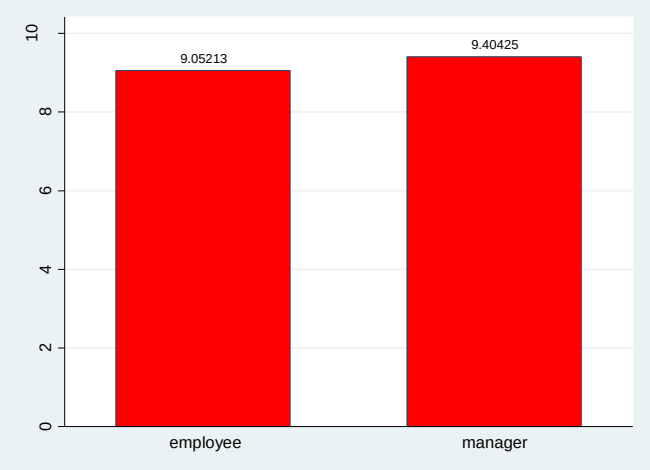


Figure 4.3: Overall satisfaction with the OHS by job description

The ANOVA test was selected to test for differences in the mean scores between demographic factors and overall satisfaction scores.

The following five figures (Figures 4.4 to 4.7) illustrate the differences in mean scores between different demographic categories.

Although the data on overall satisfaction was found to not be normally distributed, the mean of the participants' overall satisfaction rating (9.11±130) was almost equal to the median of the overall satisfaction rating (10 (IQR=1)), hence the mean satisfaction ratings were used for this part of the analysis for ease of interpretation.

Figure 4.4 below shows the mean scores of overall satisfaction with the consultation of the different occupational health practitioners. The ANOVA test indicated that there was significant evidence that the mean scores for overall satisfaction differed according to the type of practitioner that the employees were consulted by (p=0.006).

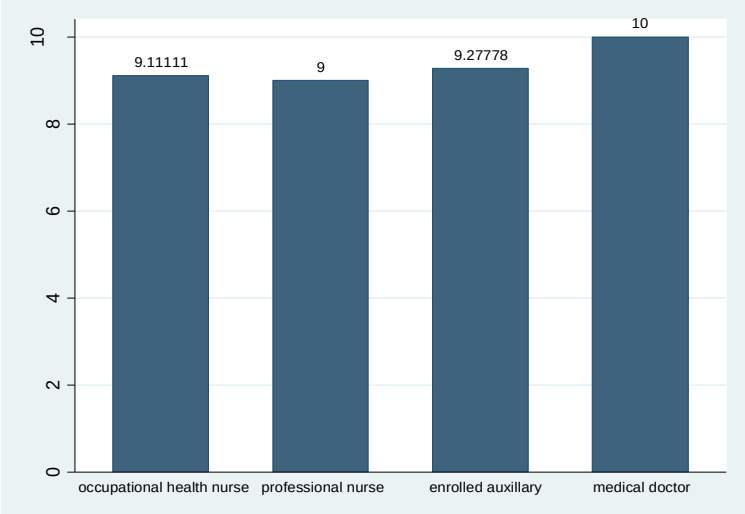


Figure 4.4: Mean overall satisfaction score by consulting practitioner

Figure 4.5 below shows the mean scores of overall satisfaction with the OHS by the number of times it was used. There was no evidence of a statistically significant difference in the mean scores between the categories shown (p=0.311).

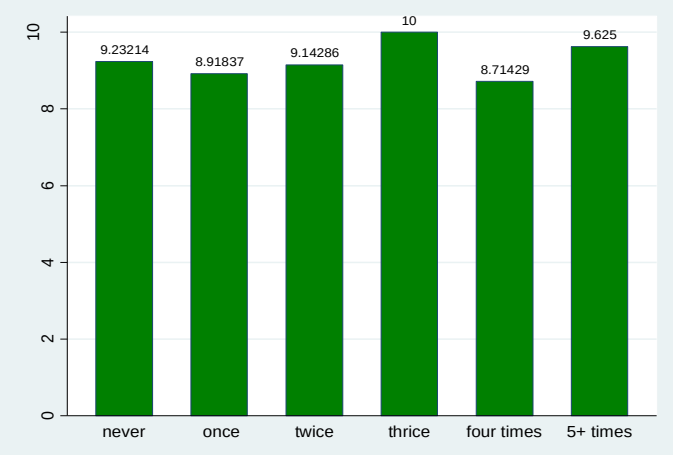


Figure 4.5: Mean overall satisfaction score by number of times the OHS was used

Figure 4.6 shows the mean scores of overall satisfaction with the OHS by education level. The difference between the means by level of education was not significant at the 5% significance level (p=0.059).

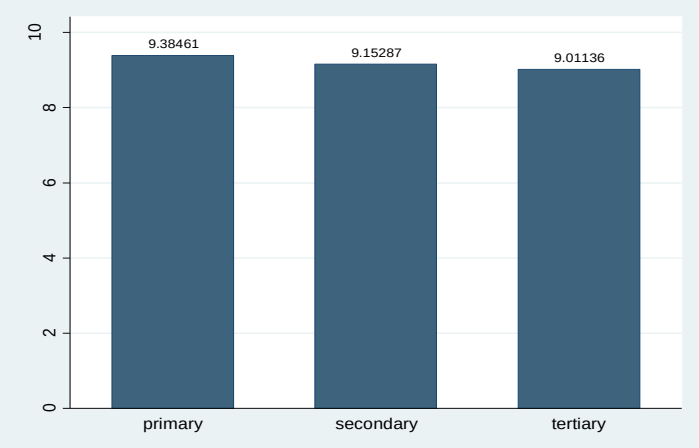


Figure 4.6: Mean overall satisfaction score by education level

Figure 4.7 shows the mean scores of overall satisfactions with the OHS by marital status. The ANOVA test revealed that there was a statistically significant difference between the mean overall satisfaction scores among the different marital categories (p=0.001).

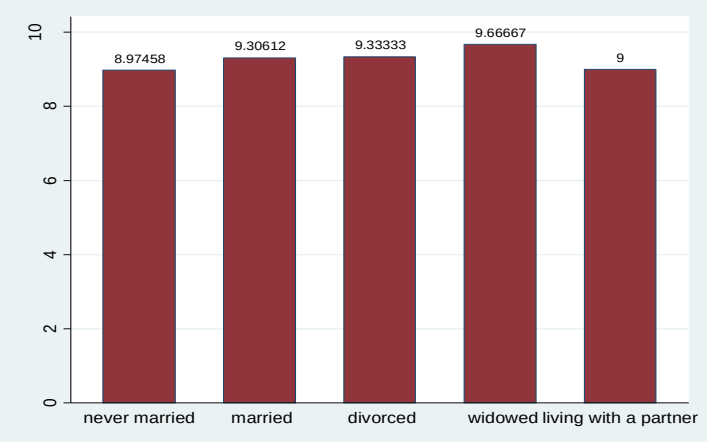


Figure 4.7: Mean overall satisfaction score by marital status

4.6.4 Satisfaction with Occupational Health Practitioners based on the five subscales

The third section of the satisfaction questionnaire comprised 20 items under the 5 subscales. The sub-scales were as follows: Being taken seriously as a patient during this visit, Trust and confidentiality during this visit, Expectations for this visit, Comfort and accessibility of this visit, and Attitude towards occupational health services in general.

Descriptive analysis of the 20 items of the PSOHP subscales displays each item as well as the mean and standard deviation.

Descriptive analysis describes and synthesises data (Brink et al. 2012). Frequency distributions (nominal, ordinal and ratio data), measures of tendencies (mean and median), and measures of variability (standard deviation, variances and distribution curves) were calculated.

The scale of the responses on a 5 point Likert-type scale were 1 = Strongly disagree, 2 = Disagree, 3 = I don't know, 4 = Agree and 5 = Strongly agree. The score range was between 1 and 5. As per the recommendation of the statistician, the items using factor analysis were reduced; 1 and 2 were grouped and recorded as 'Disagree', 3 was recorded as missing, and 4 and 5 were grouped and recorded as 'Agree'.

A proportion test was used to compare the proportion of respondents that agreed to the questionnaire items versus those that disagreed.

4.6.5 Association between demographic factors and participants overall satisfaction with occupational health practitioners

Table 4.12: Multi-linear regression assessing the association between demographic factors and participants' overall satisfaction with the OHS

Characteristic	coefficient	p-value	95% Confidence interval
Age	-0.02	0.279	-0.06–0.01
Gender Female(base)			
Male	0.32	0.137	-0.10–0.75

Marital status (base=never married)			
Married	**0.52**	**0.025***	**-0.07–0.98**
Divorced	1.05	0.194	-0.54–2.63
Widowed	1.38	0.092	-0.23–3.00
Living with partner	0.12	0.624	-0.37–0.62
Grade 9–12	-0.43	0.308	-1.27–0.40
Certificate	-0.79	0.082	-1.68–0.10
Diploma	-0.38	0.473	-1.44–0.67
Degree	-0.44	0.513	-1.77–0.89
Employee	0.43	0.099	-0.08–0.95
Manager	**0.00**	**0.045***	**-0.01–0.00**
No. of times usage of OHS (base = none)			
Once	0.28	0.459	-0.46–1.01
Twice	0.45	0.317	-0.44–1.35
Thrice	1.12	0.105	-0.23–2.48
Four times	0.28	0.645	-0.92–1.49
Five times or more	**1.69**	**0.007***	**0.46–2.92**
Last usage of OHS (base= never)			
Within the last 7 days	**-2.98**	**0.001***	**-4.65– -1.32**
A week ago	-1.42	0.027*	-2.68– -0.16
A month ago	-0.62	0.277	-1.75–0.50
6–12 months ago	**-0.79**	**0.046***	**-1.56– -0.01**
12–18 months ago	-0.50	0.208	-1.27–0.28
Consulted by (base= occupational health nurse)			
Professional nurse	0.15	0.708	-0.62–0.91
Enrolled auxiliary	0.51	0.156	-0.20–1.22
Medical doctor	**3.72**	**0.014***	**0.76–6.68**

Table 4.12 presents the multi-linear regression model, in which a total of 258 observations were included. These results demonstrated that all the demographic factors (age, gender, marital status, job description, usage of OHS and consulting practitioner) significantly contributed to the variation in the overall satisfaction of employees at the 5% significance level (p=0.0171). Multi-linear regression also showed that approximately 16% of the variation in the overall satisfaction

rating by the employees was as a result of the demographic characteristics of the employee (R-squared=0.1599). It furthermore demonstrated that most of the demographic factors were not associated with the rating of overall satisfaction with OHS (p>0.05), despite the median score showing otherwise (median=10, IQR=1). Additionally, there was evidence that married employees were likely to rate their overall satisfaction 0.52 less than employees that were never married (p=0.025), meaning married participants were likely to rate lower than never-married participants. Although there was marginal evidence (~0.05) that employees with a day higher in duration at work were likely to rate overall satisfaction higher than participants with a day lower, the coefficient was very small (<0.00).

Employees who reported to have used the OHS five times or more were likely to rate their overall satisfaction 1.69 times higher than employees who reported to have never used the OHS before. This result was found to be significant at the 5% significance level (p=0.007). There was significant evidence (p=0.001) that employees who reported to have last used the OHS within the previous 7 days were likely to rate their overall satisfaction 2.98 less than employees who reported to have never used the OHS. Employees who reported to have last used the OHS in the preceding week or 6–12 months ago were likely to rate their overall satisfaction 1.42 and 0.79 less, respectively, than employees who reported to have never used the OHS. These results were found to be significant at the 5% significance level (p<0.05). Employees who were consulted by the medical doctor were likely to score much higher (3.72 scores higher) than employees who were consulted by the occupational health nurse (p=0.014).

4.6.6 Distribution of questionnaire item responses for participants of the study

The results in this study showed that the all the items (1–5) pertaining to subscale 1: *Being taken seriously as a patient during the visit* had the mean score of >4. This result is indicative of participants agreeing to questionnaire items, which implies that the participants were satisfied with being taken seriously as a patient during their visit.

For the second subscale, *trust and confidentiality during this visit*, while the participants' mean score shows that most agreed to questionnaire item 6 (mean>4), the respondents seemed to be unsure about questionnaire items 7 and 8 (mean score ~3). For the questionnaire items regarding

the subscales *expectations for this visit, comfort and accessibility of this visit* and *attitude towards occupational health service,* the respondents of the study seemed to mostly agree (mean score >4).

Table 4.13: Comparison of employees' responses per subscale

Subscale	Observations (n)	Agree n (%)	Disagree n (%)	p-value
Being taken seriously as a patient during the last visit	237	237 (100)	0	0.000
Trust and confidentiality during the last visit	219	139 (63.5)	80 (36.5)	0.0000
Expectations for the last visit	236	118 (50)	118 (50)	**1.0000***
Comfort and accessibility of the last visit	236	118 (50)	118 (50)	0.0000
Attitude towards Occupational Health Services in general	210	210 (100)	0	0.0000

Key: *= statistically significant

Table 4.13 gives a comparison of the participant responses per subscale. The number of observations for each subscale is given after recording the response 'I don't know' as missing for each observation in order to reduce the items using factor analysis.

The table shows that for all subscales except for the subscale '*expectation during this visit'*, there was a significant difference between participants that agreed to the subscales versus those that did not agree. In these subscales, more participants were likely to agree to the subscale than to disagree ($p<0.05$) (which is consistent with the distribution of responses in Table 4.5). For the subscale *expectations during this visit,* there was no significant difference between participants that agree versus those that disagreed, and there were equal proportions in each group ($p=1.000$).

Table 4.14: Comparison of employee satisfaction with OHSs in the current study versus the reference satisfaction from the survey of Dutch OHSs

Scale	Reference (Mean ± SD) N=432	Current study (Mean ± SD) N=258	p-value
Overall satisfaction	7.4 ± 2	9.1 ± 1.3	0.0000*
Taken seriously	75 ± 22	67.8 ± 14.3	0.0000*
Opinion of OHS	65 ± 21	65.1 ± 16.2	**0.9634**
Trust	71 ± 20	64.6 ± 17.1	0.0000*
Expectations	70 ± 18	52.6 ± 21.5	0.0002*
Accessibility & comfort	75 ± 14	67.1 ± 14.5	0.0000*

Key: *=statistical significance

Table 4.14 reveals the comparison of employee satisfaction with OHS in current study versus the reference satisfaction from the survey of Dutch Health services) above outlines a comparison of the mean scale scores between the Dutch OHSs reference survey and the current study. The table shows that there was a statistically significant difference ($p<0.05$) in the scores of the employees in the current study as opposed to the Dutch reference study scores in the overall satisfaction of the participants with the OHS and in the following scales: taken seriously, trust, expectations, access and comfort . The Dutch survey consisted of a total of 432 participants while the current study consisted of a total of 258 participants. The table shows that there was no difference between the mean scores of the employees in the current study on the opinion of OHSs in comparison to the Dutch reference study scores on opinion of OHSs ($p=0.9634$).

4.7 DISCUSSION OF THE RESULTS

4.7.1 Demographic data

More than 75% of the participants were in the age-group 21–40 years, and 82% were male. The Verbeek et al. (2005) study consisted of 432 participants – half of them being male with a mean age of 44 years. The presence of the minimum age of this study (19 years) could be attributed to

the part of the community youth that presented at the OHS for their pre-employment medical at the start of their career, while the presence of the maximum age (71 years) could be attributed to the participants that had resigned and hence presented at the OHS for their exit medical.

Most respondents (45%) reported to have never been married. The results above are in keeping with News 24 and Stats SA that reveal that fewer people are getting married, that there is an increase in divorces and that most people choose to cohabit (News 24, 2016; Stats SA, 2016). Most male divorcees are managers and administrators, while most female divorcees are in professional, semi-professional and technical occupations (Stats SA, 2016).

More than half of the respondents had secondary school education (60%), and 80% of participants were employees. According to the Gross Enrolment Rate (GER) 2011 for South Africa, enrolment for the Senior Phase (Grade 7–9) was 62.3% and 56.6% for the Further Education Training (FET) Phase (Grade 10–12) (Stats SA 2016). Mpumalanga was one of two provinces in the country that showed a much higher educational growth in comparison to the other provinces (Stats SA, 2016). According to Stats SA (2016) this was due to implementation of successful government intervention policies during the democratic era. Stats SA (2016) goes further to add that 670 000 students enrolled in 2013, with 450 000 studying through the contact attendance mode and 270 000 studying through the distance mode of learning. The bracket of Science, Engineering and Technology engaged the most learners.

4.7.2 Utilisation of the OHS

In this section the participants responded to three questions related to the frequency of service utilisations, when last the service was used, and the OHP consulted.

Most respondents (43.4%) had never used the service before. This high figure could be attributed to many young people presenting at the OHS, potentially for pre-employment health assessments, while only 3.1% had used the service more than five times in the past 12 months. This frequency could be attributed to several pre-employment health assessments attended by the same person for different vacancies.

The results also showed that a most respondents (41.5%) had never used the OHS before. This high number could be attributed to the many pre-employment health assessments in which the

respondents attended the OHS for the first time. A study by Grime (2005), using a questionnaire that was based partly on a needs assessment for OHSs, concluded that most respondents were aware of the service, but few had used it due to being unfamiliar with the details of the service.

A small percentage (1.5%) of respondents had used the OHS within the previous 7 days and 3.1% had used the service a month before. These respondents could have been presenting at the OHS for a repeat or recheck of one or more of their tests (e.g. if they failed their medical due to a high blood pressure, they would have needed to return to the OHS for a recheck or retest after a time interval stated by the OHS according to their policies). While 24.0% last used the OHS 6–12 months before, 26.4% had last used the OHS 12–18 months before. These last two figures could be due to respondents having to present at the OHS for a repeat checking on a chronic medical condition or for monitoring a specific test that yielded abnormal results during their initial health assessment.

A significantly large percentage of respondents (87.5%) were consulted by the permanent OHNP, whereas only 0.4% were seen by the OHMP. This small number may have shown a deviation in their medical examinations or had a pre-existing condition that could hinder their functional ability at the workplace, and therefore needed expert medical advice on a way forward from the OHMP. According to the policy of the OHS under study, a consultation or referral to the OHMP will occur if a situation arises that is beyond the standard operating procedures of the OHNP, or if a client's condition fails to respond to the management plan executed by the OHNP.

4.7.3 Overall satisfaction with OHP in relation to demographic variables

Client satisfaction is one of the most important determinants of the quality of nursing care (Leonard, 2008; Coban & Kasikci, 2010). The overall mean satisfaction rating for this study was 9.06 (highly satisfied) (SD 1.3), which indicates that the OHS provides acceptable and quality nursing care. Verbeek et al. (2005) goes further to add that if satisfaction is below average, it could point to relevant aspects that lead to satisfaction that could be improved on.

Ahmed et al. (2013) suggested that higher satisfaction levels were mainly related to providing quality nursing care. Gender has an unpredictable effect in that a study done by Ahmed et al. (2013) found that females had higher levels of satisfaction. Two studies on client satisfaction with

nursing care among the Jordanian population also reported that females had higher satisfaction levels as compared to males (Alasad & Ahmad, 2003; Alhusban & Ahualrub, 2009). However, there were also many studies that concluded that males were more satisfied than females (Alasad & Ahmad, 2009; Hampson et al., 2002; Thi, Briancon, Empereur & Guillemin, 2002; Quintana et al., 2006; and Otani, Herrmann & Kurz, 2011). In the current study, comparative statistics using the spearman and ordinal logistic regression between gender (female and male) showed no significant relationship to level of satisfaction ($p=0.79$). Similarly, Soliemanpour et al. (2011) did a survey on patient satisfaction in the emergency department that yielded no meaningful correlation between satisfaction level and gender difference.

Another factor shown to influence satisfaction is level of education. The current study showed that those respondents with a lower education level (primary level education) had a higher satisfaction level than those with a higher education level (tertiary level education), i.e. 9.38 and 9.01 respectively. Many studies have revealed that lower-educated clients had higher levels of satisfaction (Ahmed et al., 2013; Quintana et al., 2006; Otani et al., 2011; Nguyen, Briancon, Empereur and Guillemin, 2002; Soleimanpour et al., 2011).

The current study showed no significant correlation between age and overall satisfaction; however, minor differences showed higher satisfaction with increasing age. In other studies, increasing age was related to higher satisfaction scores (Quintana et al., 2006; Hargraves et al., 2007; Jaipaul & Rosenthal, 2003; Jenkinson, Coulter, Bruster, Richards and Chandola, 2003; Nguyen et al., 2002).

Marital status in the present study also showed a slight significance in that participants that were never married reported a lower level of satisfaction (8.97) as compared to those that were married (9.30). Similar results were found by Hargraves et al. (2003), namely, that married or cohabiting respondents displayed higher satisfaction scores (although, on the contrary, Quintana et al. (2003) found that those who were single or divorced had higher satisfaction scores). Overall, Oyvind et al. (2011) concluded that age, gender, perceived health and education level were not significant predictors of overall patient satisfaction.

This study showed that the higher the job level, the higher the level of satisfaction. However in Quintana et al. (2006), the working status of their respondents had no influence on their results.

Although patient satisfaction surveys around the world have yielded contradictory findings, this tool (the PSOHP questionnaire) has proved to be useful for identifying strategic goals for all health care institutions in order to improve services rendered and to provide quality services. Ahmed et al. (2013) suggested that organisations should allow clients to be actively involved in the planning of their own health care. Patient satisfaction surveys have gained increasing attention as they are meaningful and essential sources of information, and they identify gaps, and furthermore help to develop effective action plans for quality improvement in healthcare institutions (Ahmed et al., 2013).

4.7.4 Satisfaction pertaining to the subscales of the questionnaire

A discussion on the results of section three of the questionnaire is given in this section.

4.7.4.1 Being taken seriously as a patient during this visit

This subsection enquired on items such as whether the OHP understood the problems, treated them in a pleasant matter, knew what they were talking about, gave good advice and seemed professional. The results in this subscale showed a 100% agreement with a p-value of 0000. Furthermore all the mean scores were above 4, which indicated that the participants were satisfied with how they were treated by the OHNP.

Item 5 (“the OHP seemed professional”) had the highest scoring in the questionnaire together with item 15 (“the visit went on without disturbances from outside”) with a mean scoring of 4.46 for both items, while item 2 (“the OHP treated me in a pleasant manner”) scored the highest in the study by Verbeek et al. (2005).

In the study by Arnold et al. (2008) on “Patients’ Perspectives on the Impact of Fibromyalgia”, patients reported that if no outwards sign of their condition was seen, they felt concerned about not being taken seriously by their physicians or others.

Anderson**,** Barbara and Feldman (2007) identified several factors that have a direct bearing on satisfaction and concluded that communication skills received the second-largest volume of comments pertaining to excellence in health care and that patients valued providers who are excellent listeners and who take patients’ concerns seriously, as these qualities convey care for the

patient and the patient's concerns. In addition, giving information in a manner that the patient can understand are highly appraised by patients, as this leads the caregivers to be perceived as approachable and easy to talk to, and shows that the methods and delivery of the communication are also admired qualities (e.g. patients admired being spoken softly to and being told the truth in a warm conversational style). As Anderson et al. (2007) and Soleimanpour et al. (2011) stress, communication and instilling a sense of partnership are equally important, as this encourages patients to openly discuss their concerns (Anderson et al., 2007).

Other authors in agreement with these findings (regarding factors that influence satisfaction) are Soleimanpour et al. (2011), who state that there is an evident positive relationship between the physician's skills, friendliness, information given and respect that patients were shown, and their levels of satisfaction. Al-Abri and Al-Balushi (2013) conclude that courtesy and respect of health care providers impact more on patient satisfaction, whereas communication and explanation are the second-most important aspect. Another study by Otani et al. (2011) on improving patient satisfaction found that effective communication and clear explanation has the strongest impact on improving the overall patient satisfaction, among other attributes of care.

From the above findings, it is evident that the role of effective communication in healthcare is important, and that showing understanding, being knowledgeable and being professional is a significant determinant of overall patient satisfaction and ensuring a good rapport between a health care provider and client.

4.7.4.2 Trust and confidentiality during this visit

This study showed a mean satisfaction rating of 65.1 (SD 16.2) towards trust and confidentiality**.**

The lowest scoring mean items in the questionnaire was item 7 ("I was on my guard during the conversation with the OHP") and item 8 ("during this visit I was afraid that the OHP would tell my complaints to the employer without my consent"), scoring 3.34 and 3.16 respectively. This could be due to the high number of pre-employment medicals presenting at the OHS under study where people visit the service for the first time. As the clients are in dire need of employment, it is assumed they will not divulge too much personal information and may be guarded with what they

say for fear of their information being given to a recruitment officer and losing them a job prospect.

Niveau, Burkhardt & Chiesa (2013) are of the opinion that confidentiality is one of the oldest fundamental principles of medical ethics and is a legal obligation, as it establishes a relationship of trust between doctor and patient (thereby promoting public health). According to Gillet (1987), "confidentiality is important because of our respect for certain human values and their importance to our patient." The study by Niveau et al. (2013) on "Medical Confidentiality" concluded that patients do not mention trust as an issue but rather take it for granted that trust between health care professional and patients will be maintained.

Anderson et al. (2007) conducted a study to assess what patients want, in which trust was identified as being valued by patients as an essential quality of excellence, and is formed as a result of believing that the provider is sincere. In addition, trust implies that the physician puts the patients' interests first and is very knowledgeable (Anderson et al., 2007). A study by Munyaka et al. (2010) on "Patient Satisfaction Surveys" yielded assurance as one of the domains for patient satisfaction, measuring the level of satisfaction of patients based on the health workers' ability to be knowledgeable and to inspire confidence and trust. The study by Munyaka et al. (2010) further showed that 88.2% of participants agreed that the clinics kept their records and data confidential.

Many challenges surrounding confidentiality and privacy in the context of occupational health are associated with the tripartite loyalty and sometimes conflict of interest of occupational health professionals towards the employee, employer and with their simultaneous duties (Heikkinen, Launis, Wainwright and Leino-Kilpi, 2006).

From research one can conclude that trust is not an issue that is spoken about and discussed by the health care provider and client, but rather it is assumed that the health care provider will assume that it is part of their role and maintain the clients' dignity by respecting and maintaining confidentiality.

4.7.4.3 Expectations for this visit

In this study, a mean rating of satisfaction of 64.6 (SD 17.1) was tallied for the respondents' expectations. All items (9–11) in the third subscale *expectations for this visit* had a mean score of >4 indicating that participants were satisfied in their expectations for their visit.

Patients expect their health care providers to care for them, provide clinical expert knowledge and counsel them (Nuance, 2015). When patients anticipate a cure and their conditions do not favour that outcome, there will be disappointment on both sides of the equation according to Silberstein (2010); patients tend to come to a practice with a variety of expectations that they may not even be aware of, and it is essential for the health care provider to find out what they are and avoid making assumptions (Silberstein, 2010).

Silberstein (2010) recommends that when doctors identify patients' expectations, they should compare them with their own expectations for the course of treatment, compliance and outcomes, as negating and ignoring the patients' expectations may cause resentment, displaced anger or self-defeating behaviours.

In a satisfaction survey done by Munyaka et al. (2010) it was found that being able to make an appointment that suited the respondents contributes to the level of satisfaction, and 61.4% of the respondents indicated that their appointment suited them. These results are similar to that of the current PSOHP study in which 'I had an appointment with the OHP' and 'It is clear for what reasons you can make an appointment with the OHP' yielded average scores of 4.11 and 4.24 respectively.

Expectations by clients form part of a two-way satisfaction dynamic between clients and health care providers. When health care providers identify and meet their clients' expectations, the client leaves feeling happy and satisfied, and the health care provider is satisfied that his/ her client is happy.

4.7.4.4 Comfort and access during the visit

This subsection delved into perceptions of accessibility, comfort, tidiness and disturbances.

This study concluded a mean overall satisfaction towards comfort and accessibility of 52.6 (SD 21.5). This could be due to the practice being less 'modern', the poor signage outside the facility, the poor road condition on the way to the facility, as well as its location in an underdeveloped area. Overall, in this study all items (12–15) had a mean score of >4, indicating that participants were satisfied in terms of accessibility, comfort, tidiness and lack of disturbances. The lowest means were attained for the consultation room being tidy, as well as the visit proceeding without disturbances from the outside (4.26 for both questions).

A study by Fortney, Burgess, Bosworth, Booth and Kaboli (2011) on "A Re-conceptualisation of Access for 21st Century Healthcare" states that the traditional face-to-face encounters remain the gold standard of health care delivery. The authors further add that access to healthcare should be based on patient characteristics, and advocate for a health care facility structure with the appropriate capacity to adapt itself to accommodate the specific characteristics of the patient that can cause poor access to care, such as poverty, illiteracy and rural residence.

Krahn, Hammod and Turner (2006) add that several studies indicate that the greatest service usage is by those with the greatest need. This greater need for accessible and comfortable services goes beyond its boundaries and can be redefined. Fortney et al. (2011) identify five dimensions of access, i.e. Geographical (the ease of travelling to health care provider locations), Temporal (length of time taken to receive services), Financial (the costs of healthcare services), Cultural (acceptability of health services provided in a language the patient can understand) and Digital (the ability to access and interpret digital communications). Anderson et al. (2007) agree that patients assess facilities in terms of the look and feel of the physical location or facility or the office or clinic. Patients appreciate being treated in a convenient, clean, well-organised and modern facility, whereby amenities are extras and show that the practice values the patients' perspective by providing a favourable physical environment (Anderson et al., 2007).

Fortney et al. (2011) conclude that patients' utilisation, quality and outcome will influence their satisfaction with care and ensure influence over their perceived access to care.

Overall, the majority of the comfort and access-related items show that the majority of participants are able to make use of the OHS in the Gert Sibande District without difficulty. Based on the responses, access and the level of comfort in this study are of a satisfactory result.

4.7.4.5 Attitude towards OHSs in general

The results in this subscale showed a 100% agreement with a p-value of 0000. Furthermore, all the mean scores were above 4, indicating respondents' satisfactory attitudes towards the OHS with regards to their complaints, seeking help and referring colleagues.

Attitude towards OHSs as well as to the learning outcome measures, knowledge, skills and performance are valuable outcome measures (Gilbert, 2014). As mentioned earlier, users of OHSs are fully aware of the existence of the service; however, it is the lack of familiarity with the service that results in its underutilisation. Many participants disagree or did not know whether to ask for help or refer a colleague for help to an OHP. Jeebhay and Jacobs (1999) state that workers' utilisation of workplace services was found to be restricted to minor complaints, or as in the case of this study, to obligatory occupational health examinations.

A similar satisfaction survey by Manyoka et al. (2010) identified a key subscale: *General satisfaction concerning this visit*. A majority of respondents (85.2%) agreed that they would recommend the health care facility to family/ friends if they were sick, and an overwhelming 91.3% of respondents stated that they would use the facility again if they fell ill.

Knowledge on OHSs is an important determinant of utilisation of the service. Most people use OHSs because of obligatory testing as it is essential to their employment status.

4.8 SUMMARY

This chapter presented the findings collected from participants at the OHP research setting in the Gert Sibande District of Mpumalanga. The chapter began by discussing the response rate, followed by a discussion of the results presented in tabular, graphical and written forms, clarified by related input from relevant literature.

It is evident from the above that many contradictory results exist regarding the various variables that affect patient satisfaction. Although the PSOHP survey showed no significant relationship between demographics and level of satisfaction as compared to the other studies, small differences identified could be linked and paired to that of other studies done globally.

CHAPTER FIVE

SUMMARY, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter concludes the research study by presenting a summary of the study and significant main findings. The chapter also presents the limitations of the research and makes recommendations for occupational health practice, education and future research.

5.2 SUMMARY OF THE STUDY

A cross-sectional survey was conducted in 2016 amongst participants presenting at a specific OHS in the Gert Sibande District of Mpumalanga, in which 259 employees participated in the study.

The purpose of this study was to determine the employees' satisfaction with the OHPs in one of the OHS in the Gert Sibande District in the Mpumalanga Province.

The conclusion is based on the research objectives, which were to:

1. ascertain the specific demographics of employees presenting at the OHS under study
2. ascertain and describe employees' overall satisfaction with OHPs consultation on their visit
3. describe employees' level of satisfaction with how they were managed on their visit
4. explore and describe employees' perceptions regarding the OHS environment
5. describe the level of trust relationship between the employee and the OHP.

Data was captured on the Verbeek et al. (2005) (PSOHP Questionnaire) data entry spreadsheet and then imported into STATA version 14.1 for management and data analysis. The following tests were used in the study:

Descriptive analysis was conducted; percentages, means and standard deviation were used, and frequency tables were computed to show the proportions of each of the demographic categories. Other tests and models for data analysis that were used included: Shapiro–Wilk, Multi Linear Regression model, ANOVA and t-test.

5.3 SUMMARY OF THE MAIN FINDINGS ACCORDING TO THE STUDY OBJECTIVES

5.3.1 Demographics

The majority of participants were male, with less than half of the total sample never married. More than half of the participants had a secondary school education, while most participants were employees and were consulted by the OHN.

5.3.2 Overall satisfaction

The majority of participants reported an overall high level of satisfaction towards the OHS in general. Demographic variables showed no clinical significance to the level of satisfaction. However, those that were married showed a slightly lower level of satisfaction than those that were never married, and those that were consulted by the medical doctor reported a higher level of satisfaction. Results further showed that managers showed a higher level of satisfaction than employees and the lesser educated participants showed a higher level of satisfaction than those with higher education (secondary and tertiary).

5.3.3 Level of satisfaction with how the clients were managed

The majority of participants had a mean score of >4 for each item. Participants agreed that the OHP understood their problems, treated them in a pleasant manner, that the OHP knew what they (the participant) was talking about and the OHP seemed professional.

5.3.4 Clients' perceptions regarding the OHS

Here, as well, participants rated each item >4. Clients agreed that they had clear expectations for their visit, they had an appointment and the reasons were clear for making an appointment with the OHP. Clients furthermore agreed that the OHS was accessible, comfortable and tidy, and that that the consultation went on without any disturbances from outside.

5.3.5 Level of trust relationship between clients and the OHP

This section displayed mixed results. The lowest scoring item of the questionnaire scored a mean of 3 (Items 7 and 8). Participants didn't know if they were on their guard during the conversation and didn't know whether the OHP would disclose their complaints to the employer without their consent. Other than this, participants agreed that they could count on confidential treatment of their complaints, that they would refer a colleague to the OHP, that they themselves would make an appointment to consult with a work related complaint. Participants furthermore agreed that they would seek help from the OHP for work-related stress, concerns and mental health problems.

5.4 LIMITATIONS OF THE STUDY

Limitations identified in the study were:

- Data was collected from a sample population from one of the external OHSs in the Gert Sibande District of Mpumalanga; therefore the findings of the study may not be generalised to other OHSs, therefore resulting in a low external validity.
- Participants who could not speak or understand English were excluded as the questionnaire has not been validated nor translated into other languages for the South African context.
- Only closed-ended questions on a Likert-type scale were used and thus real feelings regarding satisfaction as well as suggestions could not be gathered.
- The number of observations for each subscale is given after recording the response 'I don't know' as missing for each observation in order to reduce the items using factor analysis. 'I don't know' as a missing item leads to loss of data; however, the objective of the study was to compare the proportion of agreeing vs disagreeing participants.
- Since participation was voluntary, and the first 258 completed questionnaires were used in the data analysis, selection bias could have occurred.

5.5 RECOMMENDATIONS

5.5.1 Occupational Health Nursing Practice and education

A client-centred OHN practice is advocated in which emphasis is placed on trust and confidentiality and on clients being taken seriously. This would result in clients' voices being heard and their needs and requests being addressed. This would ultimately lead to better quality services being rendered.

Enhanced marketing of the OHS in OHN practice and a module on marketing in the education programme is recommended.

5.5.2 Further research

If the study is replicated in other situations, the findings of this study can be generalised or refuted.

5.6 SUMMARY

In view of the fact that limited research has been conducted in South Africa on satisfaction with OHPs, the researcher embarked on this study in an endeavour to ascertain and describe employees' overall levels of satisfaction with OHPs.

Client satisfaction is a strong indicator of quality of care, and clients should be able to voice their opinions on the quality of care received. Service quality and customer satisfaction are significant concepts in industries, especially as satisfied customers are at the foundation of a successful business and of service quality in a reliable institution.

Satisfaction works and benefits both ways, i.e. clients benefit by having their needs fulfilled, and businesses benefit financially from happy customers. A simple way of retrieving such information is through satisfaction surveys and indices.

The overall outcome of the research indicated that clients were very satisfied with the care that they received. The study has contributed to the body of knowledge on satisfaction with OHPs. In addition, results in this field of satisfaction were recorded for the first time.

Research strongly suggests that clients should be involved in the type of care that they want to receive. This can only produce favourable results and lies in the ability of the health care provider to utilise this information on a regular basis and take into consideration the clients' views and act on them, in order to produce a two-way satisfied stream.

REFERENCES

Acutt, J. and Hattingh, S. (2012). *Occupational Health Management and Practice for Health Practitioner.* 4th edn., Juta & Co Ltd., Cape Town.

Agosta, L.J. (2009). Patient satisfaction with nurse practitioner-delivered primary healthcare services. *Journal of the American Academy of Nurse Practitioners*. 21, p. 610–617.

Ahmed, M., Shehadeh, A. and Collins, M. (2013). Quality of nursing care in community health centres: clients' satisfaction. *Health Science Journal*. 7(2), p. 229–236.

Al-Abri, R. and Al-Balushi, A. (2013). Patient satisfaction survey as a tool towards quality improvement. *Oman Medical Journal*. 29(1), p. 3–7.

Alasad, J. and Ahmad, M. (2003). Patients' satisfaction with nursing care in Jordan. *International Journal of Health Care Quality Assurance*. 16(6), p. 279–285.

Alhusban, M.A. and Ahualrub, R.F. (2009). Patient's satisfaction with nursing care in Jordan. *Journal of Nursing Management*. 17(6), p. 749–758.

Anderson, R., Barbara, A. and Feldman, S. (2007). What patients want: a content analysis of key qualities that influence patient satisfaction. *Medical Practice Management*. March/April 2007, p. 255–261.

Angelova, B. and Zekiri, J. (2011). Measuring customer satisfaction with service quality using American satisfaction model (ACSI Model). *International Journal of Academic Research in Business and Social Sciences*. 1(3), p. 232–258.

Arnold, C.M., Crofford, L.J., Mease, P.J., Burgess, S.M., Palmer, S.C., Abetz, L. and Martin S.A. (2008). Patient perspectives on the impact of fibromyalgia. *Patient Education Council*. 73(1), p. 114–120.

Besser, A. and Bayik, A. (2006). A scale for evaluating employee satisfaction with nursing care. *Business Leadership*. 54(10), p. 455–461.

Brink, H.I., van Rensburg, G. and van der Walt, C. (2012). *Fundamentals of Research Methodology for Healthcare Professionals*. 2nd edn., Juta & Co., Cape Town.

Bulterys, S., Johannik, K., Vlamings, J. and Moens, G. (2006). An employee satisfaction survey in occupational health care – how do employees evaluate their occupational health service. *International Congress Series*. 1294, p. 89–92.

Burns, S.N. and Grove, S.K. (2010). *Understanding Nursing Research*. 3rd edn. Philadelphia, Saunders.

Cardona, K.M., Pinder, E. and Sonenstein, F.L. (2014). Clients' perceptions of service quality and satisfaction at their initial title X family planning visit. Health Communication. 29, p. 505–515.

Coban, G.I. and Kasikci, M. (2010). Reliability and validity of the scale of the perception of hospital experience with nursing care in a Turkish population. *Journal of Clinical Nursing*. (19)13–14, p.1929–1934.

Crous, M. (2006). Quality service delivery through customer satisfaction. *Journal of Public Administration*. 41(22), p. 397–407.

Department of Public Service and Administration. (2014). Public service programmes. Accessed on 18 August 2016 from http://www.dpsa.gov.za/programmes.php?id=14.

Dobre, C. (2005). Consumer behaviour and marketing practice. Mirton, Timisoara.

Fluid Surveys. (2014). Accessed on 27 March 2017 from http://fluidsurveys.com/university/difference-response-rate-completion-rate/.

Fortney, J.C., Burgess, J.F., Bosworth, H.B., Booth, B.M. and Kaboli, P.J. (2011), A re-conceptualisation of access for 21st century health care. *JGIM*. 26(2), p. 639–647.

Gert Sibande Municipality. (2016). Accessed 24 March 2017 from https://www.gsibande.gov.za/.

Gilbert, S.M. (2014). Revisiting structure, process, and outcome. *American Cancer Association*. 121(3), p. 379–385.

Gillett, G. (1987). AIDS and confidentiality. *Journal of Applied Philosophy.* 4(1), p. 15–20.

Godderis, L., Johannik, K., Mylle, G., Bulterys, S. and Moens, G. (2014). Epidemiological and performance indicators for occupational health services in a feasibility study in Belgium. Biomed Central Ltd. Accessed 22 July 2015 from https://bmchealthservres.biomedcentral.com/articles/10.1186/1472–6963–14–410.

Grime, P., (2005), 'Evaluation of an occupational health service for general practitioners and their staff in a primary care trust', Occupational Medicine, 55, 494–497.

Guidott, T.L., Arnold, M.S., Lukcso, G.D., Green-McKenzie, J., Bender, J., Rothstein, M.A., Leone, F.H., O'Hara, K. and Stecklow, M. (2012). *Occupational Health Services: A Practical Approach*. American Medical Association, New York.

Gyekye, S.A. and Salminen, S. (2005). 'Responsibility assignment at the workplace', Finnish and Ghanalan Perspective, Blackwell Synergy.

Hall, J.A. and Dornan, M.C. (1990). Patient sociodemographic characteristics as predictors of satisfaction with medical care: a meta-analysis. *Social Science Medicine*. 30(12), p. 811–818.

Hampson, S., Crow, R., Gage, H., Hart, J., Kimber, A., Storey, L. and Thomas, H. (2002). The measurement of satisfaction with health care: implications for practice from a systematic review of the literature. *Health Technology Assessment*. 6, p. 1–244.

Hargraves, J.L., Wilson, I.B., Zaslavsky, A., James, C., Walker, J.D., Rogers, G. and Clearly, P.D. (2001), Adjusting for patient characteristics when analysing reports from patents about hospital care. *Medical Care.* 39, p. 635–641.

Health Systems Trust. (2016). South African Health Review 2016. Accessed on 07 November 2016 from http://www.hst.org.za/publications/south-african-health-review-2016.

Heikken, A., Launis, P., Wainwright, P. and Leino-Kilpi, H. (2006). Privacy and occupational health services. *Journal of Medical Ethics*. 32, p. 522–525.

Hekkert, K.D., Cihangir, S., Kleefstra, S.M., van den Berg, B. and Kool, R.B. (2009). Patient satisfaction revisited: a multilevel approach. *Social Science and Medicine*. 69(1), p. 68–75.

ILO. (2005). Joint ILO/WHO guidelines on health services. Accessed on 06 July 2015 from http://www.ilo.org/wcmsp5/groups/public@ed_project/@protravel@ilo_aids/documents/publication/wcms_116240.pdf.

Isac, F.L. and Rusu, S. (2014). Theories of consumer's satisfaction and the operationalization of the expectation disconfirmation paradigm. University of Targu Jiu. Economy Series, 2, p. 82–88.

Jaipaul, C.K. and Rosenthal, G.E. (2003), Are older patients more satisfied with hospital care than younger patients?. *Journal of General International Medicine*. 18, p. 23–30.

Jeebhay, M. and Jacobs, B. (1999) in Crisp, N. and Ntuli, A. (1999). South African Health Review, Chapter 19, University of Cape Town, p. 257–276.

Jenkinson, C., Coulter, A., Bruster, S., Richards, N. and Chandola, T. (2003), Patient's experience and satisfaction with health care: results of a questionnaire study of specific aspects of care. *Quality Safety Health Care*. 11, p. 335–339.

Johannson, P., Oleni, M. and Fridlund, B. (2002). Patient satisfaction with nursing care in the context of health care: a literature study. *Scandinavian Journal of Caring Sciences*, 16(4), p.337–344.

Jose, M.Q., Nerea, G.A.B., Felipe, A., Antonio, E., Cristobal, E., Jose, A.S., Emilio, S. and Andrew, T. (2006). Predictors of patient satisfaction with hospital health care. *Health Service Research*. 6(102), p. 3–7.

Karim, R.M., Abdullah, M.S., Rahman, A.M. and Alam, A.M. (2016). Identifying role of perceived quality and satisfaction on the utilization status of the community clinic services: Bangladesh context. BMC Health Services Research. 16, p. 1–16.

Kongsved, S.M., Basnov, M., Holm-Christensen, K. and Hjollund, N.H. (2007). Response rate and completeness of questionnaires: a randomized study of Internet versus paper-and-pencil versions. *Journal of Medical Internet Research*. 9(3), p. 25.

Krahn, G.L., Hammond, L. and Turner, A. (2006). A cascade of disparities: health and health care access for people with intellectual disabilities. *Mental Retardation and Development Disabilities Research Reviews*. 12, p. 70–82.

Kwayiba, T.F. (2012). Workers perceptions of occupational safety and health administration measures at Sasol Infrachem in Sasolburg.

Labour Relations Act. Act 66 of 1995. Accessed on 2 March 2015 from http://www1.chr.up.ac.za/undp/domestic/docs/legislation_30.pdf.

Laos, C.M., DiStefano, M.C., Cruz, A.T., Caviness, A.C., Hsu, D.c. and Patel, B. (2012). Mobile pediatric emergency response team: patient satisfaction during the NOVEL H1N1 influenza. *Academic Emergency Medicine*. 19(3), p. 274–279.

Lehtinen, S., Rantanen, J., Elgstrand. K., Liesivuori, J. and Peurala, M. (2005), Challenges to occupational health services in the regions: the national and international responses: proceedings

of an ICOH/ WHO/ ILO workshop. Finnish Institute of Occupational Health. Helsinki. Finland. 1, p. 5–15.

Leonard, K.L. (2008). Is patient satisfaction sensitive to changes in the quality of care? An exploitation of the Hawthorne effect. *Journal of Health Economics*. 27(2), p. 444–459.

Levoy, B. (2012). The keys to patient satisfaction. *Podiatry Management*. 3(1), p. 39–40.

Loewenson, R. (2004). Global challenges to equity in safety and health at work: struggles for fair work in Southern Africa. Perspectives on Global Development Technology Medical Health.

Munyaka, S., Senekal, I., Phaswana-Mafanya, N. and Davids, A. (2010). Patient satisfaction survey. University of Fort Harare. Health Management and Leadership. p. 1–22.

Mast, M.S., Hall, J.A., Klockner, C. and Choi, E. (2008). Physician gender affects how physician nonverbal behavior is related to patient satisfaction. *Medical Care*. 46(12), p. 1212–1218.

Michell, K.E. (ed.). (2011). *A practical approach to occupational health nursing*. SASOHN. p. 25.

Mine Health and Safety Act. Act 29 of 1996. Accessed on 24 March 2015 from http://www.dmr.gov.za/legislation/summary/30–mine-health-and-safety/530–mhs-act-29–of-1996.html

National Spatial Framework Perspective and Mpumalanga Provincial Integrated Spatial Framework 2009. Accessed on 05 September 2016 from https://www.gsibande.gov.za/index.php?option=com_zoo&task=callelement&format=raw&item_id=4421&element=f85c494b-2b32–4109–b8c1–083cca2b7db6&method=download&args%5B0%5D=0.0&args%5B1%5D=f40e2b89b6f749698fcf09b70146b570&Itemid=157.

Neuman, W.L. (2006). *Social Research Methods*. 6th edn. Pearson International Edition, Cape Town.

News 24. (2016). Fewer people getting married, increase in divorces. Accessed on 04 January 2017 from http://www.news24.com/SouthAfrica/News/fewer-people-getting-married-increase-in-divorces-stats-sa-20160209.

Nguyen, T.P.L., Briancon, S., Empereur, F. and Guillemin, F. (2002). Factors determining in patient satisfaction with care. *Social Science Medicine*. 54(4), p. 493–504.

Niveau, G., Bukhardt, S. and Chiesa, S. (2013). Medical confidentiality and the competent patient. *Journal of Medical Ethics*. 39(11), p. 686–689.

Nuance, D.T. (2015). Healthcare from the patient perspective. Nuance Communications Inc.

Nulty, D.D. (2008). The adequacy of response rates to online and paper surveys: what can be done?. *Assessment & Evaluation in Higher Education*. 33(3), p. 301–314.

Nunnally, J.C. (1967). *Psychometric Theory*, 1st ed, New York: McGraw Hill.

Occupational Health and Safety Act. Act 85 of 1993. Accessed on 24 March 2015 from http://www.labour.gov.za/DOL/downloads/legislation/acts/occupational-health-and-safety/amendments/Amended%20Act%20%20Occupational%20Health%20and%20Safety.pdf.

Otani, K., Herrmann, P.A. and Kurz, R.S. (2011). Improving patient satisfaction in hospital care settings. *Health Service Management*. 24(4), p. 163–169.

Oyvind, A.B., Ingeborg, S.S. and Hilde, H.I. (2011). Overall patient satisfaction with hospitals: effects of patient reported experiences and fulfilment of expectations. *British Medical Journal Quality Safety*. Accessed on 09 November 2016 from http://qualitysafety.bmj.com.

Patro, B.K., Kumar, R., Goswami, A., Nongkynrih, B. and Panday, C.S. (2008). Community perception and client satisfaction about the primary health care services in an urban resettlement colony of New Delhi. *Indian Journal of Community Medicine*. 33(4), p. 250–254.

Peterson, R.A. (1994). A meta-analysis of chronbach's coefficient alpha, Journal of Consumer Research, 21(2), p.281–391.

Polit, D. and Beck, B. (2013). *Nursing Research, Principles and Methods*. Philadelphia. Lippincot.

Public Administration Dictionary. (2016). Accessed on 06 August 2016 from https://books.google.co.za/books/about/Public_Administration_Dictionary.html?id=qw2zKTNdQm0C&redir_esc=y.

Pulido, A., Stone, D. and Strevel, J. (2014). The three C's of customer satisfaction: consistency, consistency, consistency. McKinsey. Toronto.

Quintana, J.M., Gonzales, N., Bilbao, A., Aizpuru, F., Escoban, A., Esteban, C., San-Sebastian, J.A., de-la Sierra, E. and Thompson, A. (2006). Predictors of patient satisfaction with hospital healthcare. *BMC Health Science Research*. 6(102), p. 1–9.

Random House Dictionary (a). Client. Accessed on 13 June 2015 from http://www.dictionary.com/browse/client?s=t.

Random House Dictionary (b). Patient. Accessed on 13 June 2015 from http://www.dictionary.com/browse/patient?s=t.

Random House Dictionary (c). Customer. Accessed on 13 June 2015 from http://www.dictionary.com/browse/customer?s=t.

Rantanen, J. (2005). Basic occupational health services- their structure, content and objectives. *Scandinavian Journal of Work, Environment & Health*. 1, p. 5–15.

Saila, T., Mattila, E., Kaila, M., Aalto, P. and Kaunonen, M. (2008). Measuring patient assessments of the quality of outpatient care: a systematic review. *Journal of Evaluation in Clinical Practice*. 14(1), p. 148–154.

Sanjuq, G. (2014). The impact of service quality delivery on customer satisfaction in the banking sector in Riyadh, Saudi Arabia. *International Journal of Business Administration*. 5(4), p. 77–84.

Silberstein, N. (2010). Understanding and managing patient expectations. Podiatry Management. January 2010, p. 109–112.

Sim, M.R. (2010). Occupational health services – Standards need to be underpinned by better research on effectiveness. *Occupational and Environmental Medicine*. 67(5), p. 289–290.

Skinner, C. (2006). Falling though the policy gaps: evidence from the informal economy in Durban, South Africa. *Urban Forum*. 17(2), p. 125–148.

Smith, K.B., Humphreys, J.S. and Jones, J.A. (2006). Essential tips for measuring levels of consumer satisfaction with rural health service quality. *Rural and Remote Health*. 6, p. 594.

Snaith, R.P. (2003). The hospital anxiety and depression scale. Health and Quality of Life Outcomes. 1(29), p. 1–4.

Soleimanpour, H., Gholipouri, C., Salarilak, S., Roufi, P., Gholi, V., Rouhi, A.J., Ghafouri, R.R. and Soleimanpour, M. (2011). Emergency department patient satisfaction survey in Imam Reza Hospital, Tabriz, Iran. *International Journal of Emergency Medicine*. 4(2), p. 1–7.

Spatial Development Framework (2009). Accessed on 05 September 2016 from https://www.gsibande.gov.za/index.php?option=com_zoo&task=callelement&format=raw&item_id=4421&element=f85c494b-2b32–4109–b8c1–083cca2b7db6&method=download&args%5B0%5D=0.0&args%5B1%5D=f40e2b89b6f749698fcf09b70146b570&Itemid=157.

Spee, T. (2006). Occupational hygiene in Africa. *Journal of Occupational Hygiene*. 50(5), p. 431–435.

Stats SA. (2016). Marriages and divorces. Statistical release, P0307. Accessed on 04 January 2017 from http://www.statssa.gov.za/publications/P0307/P03072013.pdf.

Tavakol, M. and Dennick, R. (2011). Making sense of Cronbach's Alpha, *International Journal of Medical Education*, 2, p. 53–55

The Qualtrics Survey. (2016). Accessed on 22 August 2016 from https://www.qualtrics.com/support/research-resources/customer-satisfaction-theory/.

The Universal Dictionary (a) Service. Accessed on 13 June 2015 from http://www.dictionary.com/browse/service?s=t.

The Universal Dictionary (b) Delivery. Accessed on 13 June 2015 from http://www.dictionary.com/browse/delivery?s=ts

Thi, P.L., Briancon, S., Empereur, F. and Guillemin, F. (2002). Factors determining inpatient satisfaction with care. *Social Science Medicine*. 54, p. 493–504.

Ujah, E.U., Bradshaw, L., Fishwick, D. and Curran, A.D. (2004). An evaluation of occupational health services within the NHS in London. *Occupational Medicine*. 54, p. 159–164.

Vahey, D.C., Aiken, L.H., Sloane, D.M., Clarke, S.P. and Vargus, D. (2004), 'Nurse burnout and patient satisfaction', *Medical Care*, 42(2), 1157–1166.

Verbeek, J., de Boer, A.G., van der Weide, W.E., Piirainen, H., Anema, J.R., van Amstel, R.J. and Hartog, F. (2005) 'Patient satisfaction with occupational health physicians, development of a questionnaire', *Occupational Environmental Medicine*, 62, 119–123.

Verbeek, J., Hisman, K., van Dijk, F., Jauhiainen, M., Pasterneck, I. and Vainia, H. (2014), 'Building an evidence base for occupational health interventions', *Scandinavian Journal of Work, Environment and Health*, 30(2), 164–168.

Wells, A. (2016). Research Setting. Accessed on 07 July 2016 from http://science.blurtit.com/2679845/what-is-research-setting.

White Paper for the Transformation of the Health System in South Africa. Department of Health. Notice 667 of 1997. Accessed on 18 August 2016 from http://www.gov.za/sites/www.gov.za/files/17910_gen667_0.pdf.

Zolnicrek, K.B. and Dimatteo, M.R. (2009). Physician communication and patient adherence to treatment: a meta-analysis. *Medical Care*. 47, p. 826–834.

ANNEXURE A

R14/49 Ms Kavitha Pillay

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M150438

NAME: (Principal Investigator)	Ms Kavitha Pillay
DEPARTMENT:	Nursing Education Gert Sibande District, Mpumalnga
PROJECT TITLE:	Employee Satisfaction with Occupational Health Practitioners in the Gert Sibande District in Mpumalanga
DATE CONSIDERED:	24/04/2015
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Ms AM Tshabalala
APPROVED BY:	Professor P Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	20/07/2015

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

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Secretary in Room 10004, 10th floor, Senate House, University.
I/we fully understand the conditions under which I am/we are authorized to carry out the above-mention 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 the application to the Committee. **I agree to submit a yearly progress report**.

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

ANNEXURE B

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Private Bag 3 Wits, 2050
Fax: 027117172119
Tel: 02711 7172076

Reference: Ms Thokozile Nhlapo
E-mail: thokozile.nhlapo@wits.ac.za

07 March 2016
Person No: 923255
PAG

Ms K Naicker
P O 3075
Secunda
2302
South Africa

Dear Ms Naicker

Master of Science in Nursing: Approval of Title

We have pleasure in advising that your proposal entitled *Employee satisfaction with occupational health practitioners in the Gert Sibande District in Mpumalanga* has been approved. Please note that any amendments to this title have to be endorsed by the Faculty's higher degrees committee and formally approved.

Yours sincerely

Mrs Sandra Benn
Faculty Registrar
Faculty of Health Sciences

ANNEXURE C

INDUSTRIAL HEALTH AUDIOMETRIC & MEDICAL SCREENING SERVICES

Reg. no: CC 1995/42191/23 VAT no: 4460171111
23 Jellicoe Street, eMalahleni, Mpumalanga, RSA P.O.Box 8779, Die Heuwel, Witbank, 1042
Phone: (013) 690 3021 Fax: (013) 656 2819 Web: www.ihamss.co.za

Date: 20 March 2015

Attention: Kavitha Pillay

RE: EMPLOYEE SATISFACTION WITH OCCUPATIONAL HEALTH SERVICES IN MPUMALANGA STUDY

Good day Miss Pillay

We would hereby like to confirm that our company gives you our consent to distribute the questionnaire pertaining to your study to our clients. Our only stipulation is that we also receive any results regarding our clients.

Regards

M. C. Keen

ANNEXURE D

From: Verbeek Jos [mailto:Jos.Verbeek@ttl.fi]

Sent: 09 March 2015 04:38 PM

To: Amme Tshabalala

Subject: RE: Request for Verbeek et al questionnaire

Dear Amme,

Please find the questionnaire attached and feel free to use and report.

I also attach a spreadsheet for the scoring system.

Best wishes

Jos

ANNEXURE E

Employee Satisfaction with Occupational Health Practitioners in Mpumalanga

Aspect 1: Demographic Data **Questionnaire Number: ----------**

Instructions: Tick a relevant answer

1. **Age** ----------

2. **Gender** (Tick a relevant answer)

Female	
Male	

3. **Marital Status**

Never Married	
Married	
Divorced	
Widowed	
Living with partner	

4. **Highest level of education**

Grade 5-8	
Grade 9-12	
Certificate	
Diploma	
Degree	
Masters	

5. **Which best describes your job?**

Employee	
Manager	

6. **For how long have you been doing your current job?**

---

7. **How many times in the past 12 months have you used the occupational service?**

None	
Once	
Twice	
Thrice	
Four times	
Five times and more	

8. **When was the last time you used the service?**

Never	
Within the last seven days	
A week ago	
A month ago	
6 – 12 months ago	
12 – 18 months ago	
Other please state	

9. **I was consulted by the:**

Occupational Health Nurse	
Professional Nurse	
Enrolled Auxiliary	
Occupational Medical Doctor	

Aspect 2 Patient Satisfaction with Occupational Health Practitioner (OHP) Questionnaire					
Overall, my satisfaction with this visit could be rated with ..... *(Please, fill in a number between 1 and 10, with 10 being the highest possible satisfaction and 1 the lowest possible satisfaction)*					
Answer the following questions by circling the number of your choice	***1 I totally Disagree***	***2 I do not agree***	***3 I don't know***	***4 I agree***	***5 I totally agree***
Being taken seriously as a patient during this visit					
1. OHP understood well what my health problems and/or problems with work were	1	2	3	4	5
2. The OHP treated me in a pleasant manner	1	2	3	4	5
3. The OHP knew what he/she was talking about during the conversation	1	2	3	4	5
4. The OHP gave me good advice about my health	1	2	3	4	5
5. The OHP seemed professional	1	2	3	4	5
Trust and confidentiality during this visit					
6. For this visit, I could count on a confidential treatment of my complaints by the OHP	1	2	3	4	5
7. I was on my guard during the conversation with the OHP	1	2	3	4	5
8. During this visit I was afraid that the OHP would tell my complaints to the employer without my consent	1	2	3	4	5
Expectations for this visit					
9. I had clear expectations for this visit with the OHP	1	2	3	4	5
10. I had an appointment with the OHP	1	2	3	4	5
11. It is clear for what reasons you can make an appointment with the OHP	1	2	3	4	5
Comfort and access of this visit					
12. The Occupational Health Service was easily accessible (location, public transport, parking, etc)	1	2	3	4	5
13. The waiting room was comfortable	1	2	3	4	5
14. The consultation room was tidy	1	2	3	4	5
15. Visit went on without disturbances from outside	1	2	3	4	5
Attitude towards Occupational Health Services in general					
16. If I would get work-related health complaints, I would make an appointment with the OHP	1	2	3	4	5
17. I would advise a colleague with work-related health complaints to see the OHP	1	2	3	4	5
18. I would ask the OHP to help me if I experience work related stress	1	2	3	4	5
19. If I would be unable to work because of back pain I would ask the OHP for help	1	2	3	4	5
20. If I would be unable to work because of mental health problems I would ask the OHP for help	1	2	3	4	5

ANNEXURE F

Participant Information Sheet

A study investigating Employee Satisfaction with Occupational Health Services in Mpumalanga

Dear Sir or Madam

My name is Kavitha Naicker and I am a student at the University of the Witwatersrand. I am currently studying for a Master's Degree in Occupational Health Nursing at the Faculty of Health sciences. As part of the Degree, I am required to complete a study under the guidance of a research supervisor.

May I invite you to consider participating in a study to determine your satisfaction with the occupational health services provided.

Your participation in this study is entirely voluntary and there are no risks involved. You have the right to refuse to participate or withdraw from the study at any time without any consequences to you accessing the service in future. Your responses will be kept confidential.

Should you agree to take part in the study, I would like to request that you please sign the attached form and then fill in a quantitative study questionnaire. This will take approximately 10–15 minutes to complete.

Data collected will remain strictly confidential and anonymous as neither names nor identifying data will be recorded. All completed questionnaires will be kept in a locked facility at the Department of Nursing education and will be accessed by myself and my research supervisor Ms Tshabalala.

Findings of the study will be made available to the contracted occupational health service provider and the report of the study submitted to the University of the Witwatersrand for examination purposes.

Thank you taking time to read this information letter. Should you have any queries or need more information please feel free to contact me at: 083 683 0480 or my supervisor Ms Tshabalala at 011 488 4267.

Yours sincerely,

Kavitha Naicker

ANNEXURE G

Participant Consent Letter

A study investigating Employee Satisfaction with Occupational Health Practitioners in Mpumalanga

Investigator: Kavitha Naicker

I …… have read and understood the letter of invitation to take part in the research study: Employee Satisfaction with Occupational Health Practitioners Services in Mpumalanga.

I have received adequate information regarding the nature of the study. I understand that my participation is voluntary and that I may refuse to participate, or withdraw my consent and stop taking part at any time without penalty.

I hereby freely consent to take part in this study project.

……..... ……..……..

Signature of participant Date

The study to explore employee's satisfaction with the Occupational Health Services were discussed with the participant and in my opinion; the participant understands the risks, benefits and obligations involved in participating in this study.

……..... …….

Investigator Date

ANNEXURE H

Instructions questionnaire scoring PSOHP

1. Calculate the average satisfaction rating by adding up all the ratings and dividing by the number of participants.

2. Keep in mind that the questions 7 and 8 have a reversed scoring. One has to be recoded as 5 and 2 as 4 etc.

3. Calculate the sum score per category (scale) by adding up the answers to the questions of that scale or category.

4. Recalculate the scale scores into a scale of 0 to 100 by the following procedure:

- subtract the minimum score per scale from the actual scale score

- divide the results of the subtraction by the maximum score of that scale

- multiply this finding with 100.

Example: A scale with five questions and an actual sum score of 14.

Scale score = (14–5) /20 * 100 = 45

This scale can be interpreted if it runs from 0 to 100. The maximum is 100 and the minimum is 0.

5. Calculate the average sum score per scale by adding up all sum scores in a scale or category (transposed into a 0–100 scale) of all participants and divide by the number of participants.

6. You can take over the results of each individual participant in the attached excel spreadsheet. All recalculations are done automatically. The worksheet is protected so that you can only fill in the cells that need to be filled in. There is a maximum of 100 participants. If you want to increase the number it is easier to do this in a statistical programme like SPSS.

7. As an alternative for considering the outcome, there is the possibility to calculate only the 4–s and 5–s. This is done automatically in the spreadsheet.

8. As a reference you can use the figures of a survey of Dutch Occupational Health Services. The figures are given in the table underneath and the number of participants was 432.

	Satisfaction with Occupational Health Physician
Overall Satisfaction	7.4 ± 2
Taken seriously	75 ± 22
Opinion OHS	65 ± 21
Trust	71 ± 20
Expectations	70 ± 18
Access and comfort	75 ± 14

If you have questions please address them to Jos Verbeek, j.h.verbeek@amc.uva.nl

ANNEXURE I

Confirmation of Sample Size

From: Steve Olorunju [mailto:steve.olorunju@mrc.ac.za]

Sent: 30 August 2016 12:29 PM

To: Agnes Huiskamp

Subject: RE: sample

She has enough Sample to work provided the questionnaire have been captured adequately. In any case, she may have her own idea of analysing her data. Stopping at the question asked, she has enough data.

Steve.

From: Agnes Huiskamp [mailto:Agnes.Huiskamp@wits.ac.za]

Sent: Tuesday, August 30, 2016 11:53 AM

To: Steve Olorunju <steve.olorunju@mrc.ac.za>

Subject: RE: sample

Thank you Dr. Steve

The student is measuring the satisfaction of workers with occupational health services.

She does it at a clinic that see between 1000 and 1500 workers per month.

She has 280 questionnaires already – is this sufficient?

Best wishes

Kind regards

Ms. Agnes Huiskamp
Lecturer.
Specialisation: Mental Health; Occupational Health.
e-mail: Agnes.Huiskamp@wits.ac.za
Tel: +27 (0) 11 488 4273
address: 7 York Road, Parktown, Johannesburg, South Africa, 2193.

Department of Nursing Education

WITS UNIVERSITY
FACULTY OF HEALTH SCIENCES
THERAPEUTIC Sciences

ANNEXURE J

Editing Certificate

Editing Certificate

To:

The Department of Nursing Education Faculty of Health Sciences, University of the Witwatersrand

I certify that I have edited the following
MSC Research Report
to the standard required by
the Wits Department of Nursing Education:

Employee Satisfaction with Occupational Health Practitioners in the Gert Sibande District in Mpumalanga

by Kavitha Naicker

Nicky Nagy

Independent editing and publishing professional

9 January 2018

Nicky Nagy noodlenicky@gmail.com 081 584 3724

Church Street, Mowbray, CPT