Depressed, not depressed or unsure: Prevalence and the relation to well-being across sectors in South Africa

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Mini-dissertation submitted in partial fulfilment of the requirements for the degree Magister Commercial in Industrial Psychology at the Potchefstroom Campus of the North-West University

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May 2011

COMMENTS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (6th edition)* of the American Psychological Association (APA) were followed in this mini-dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom Campus) to use APA style in all scientific documents as from January 1999.

- The mini-dissertation is submitted in the form of one research article.

ACKNOWLEDGEMENTS

"Let us, as psychologists in general, and as IO psychologists in particular, contemplate with deep consideration for the human condition and be inspired towards caritas – loving kindness. Let us also be dynamic thinkers and creators. But lastly, let us be alive with courage and boldness, let us labour relentlessly, and struggle ceaselessly, to serve humankind both as scientists and as professionals." – Prof. D.J.W. Strümpfer (2007)

I would like to express my sincere gratitude to the following people:

- My husband and best friend, Jacques, for your love, patience and support. Your spirit and determination inspires me.
- My parents, Malan and Alet, for every single thing you have taught me and all the opportunities you worked so hard to give me throughout my life. Thank you for raising me as a child of the almighty God.
- My father and mother in law, Peet and Gerda, for your love and encouragement. Your example is a living testimony.
- My brother and sister, Gerhard and Hester, for your love and friendship.
- All my friends, for your prayers and love. A special thank you to Marais and Liezl, for everything you both mean to me and Jacques.
- Every lecturer that shaped me throughout the years. Dr. Lenè Jorgensen deserves a special mention for the professional and sensitive manner in which she supported (and still supports) my growth towards becoming a psychologist.
- My supervisor, Mrs. Crizelle Els, for your expert guidance, patience and encouragement and also for your help with the statistical analysis.
- Afriforte (Pty) Ltd for the use of their dataset and Ian Rothmann (Jnr) for your assistance with the statistical analysis.
- Dr. Amanda van der Merwe, for the professional manner in which she conducted the language editing.

SOLI DEO GLORIA!

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ABSTRACT

Title: Depressed, not depressed or unsure: Prevalence and the relation to well-being across sectors in South Africa

Keywords: Depression, work engagement, burnout, stress-related ill health, stress-related psychological ill health, stress-related physical ill health, vigour, dedication, exhaustion, cynicism.

Depression is one of the most debilitating, widespread and costly health problems worldwide and has a high prevalence in almost every society. Research suggests that depression affects an individual's work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms. However, it is unclear whether these findings would differ among individuals who reported that they suffer from depression and receive medical treatment for it, individuals who reported that they are unsure whether they suffer from depression, and individuals who reported that they do not suffer from depression.

This study is quantitative in nature and a cross-sectional design was used. The study population consisted of 15 664 participants from several sectors in South Africa. The participants also differed in terms of gender, age, race, marital status, educational level, language and the province where they reside. The sample population was thus representative of the diverse population of South Africa.

The SAEHWS, a self-report instrument based on the dual-process model of work-related well-being, was used to measure all constructs. The participants were divided into three groups, i.e. individuals who reported that they suffer from depression and are currently receiving medical treatment for depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Frequencies were used to determine the prevalence of depression in the three different groups and MANOVA (multivariate analysis of variance) was used to determine the significance of

differences between the levels of work engagement, burnout and stress-related ill health symptoms of the three different groups (individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression).

The results showed that 18,3% of the population reported that they suffer from depression and receive medical treatment for depression, 16,7% of the population reported that they are unsure whether they suffer from depression and 65% reported that they do not suffer from depression. Furthermore, it was found that depression significantly influences work engagement levels negatively and that it significantly influences burnout levels and the occurrence of stress-related ill health symptoms positively.

This study will make organisations aware of the effect of depression on an individual's well-being and of the fact that depression is a factor to be reckoned with. Employers should consider ways to assist employees who suffer from depression and should learn how to act preventatively to decrease any further occurrence.

OPSOMMING

Titel: Depressief, nie depressief nie of onseker: Die voorkoms van depressie en die verwantskap daarvan met welstand in Suid-Afrikaanse sektore

Sleutelterme: Depressie, werksbegeestering, uitbranding, stresverwante swak gesondheid, stresverwante psigologiese swak gesondheid, stresverwante fisiese swak gesondheid, lewenskragtigheid, werkstoewyding, uitputting, afsydigheid.

Depressie is een van die mees aftakelende, wydverspreide en duurste gesondheidsprobleme ter wêreld en het 'n hoë voorkoms in byna elke samelewing. Navorsing dui daarop dat depressie `n individu se werksbegeesteringsvlakke, uitbrandingsvlakke en die voorkoms van stresverwante swak gesondheidsimptome beïnvloed. Dit is egter onbekend of hierdie faktore sal verskil vir individue wat aangedui het dat hulle aan depressie ly en mediese behandeling daarvoor ontvang, individue wat aangedui het dat hulle onseker is of hulle aan depressie ly, en individue wat aangedui het dat hulle nie aan depressie ly nie.

Hierdie studie is kwantitatief van aard en ’n deursnee-ontwerp is gebruik. Die studie het bestaan uit 15 664 deelnemers uit ses verskillende sektore in Suid-Afrika. Die deelnemers het ook verskil ten opsigte van geslag, ouderdom, ras, huwelikstatus, opvoedkundige vlak, taal en die provinsie waarin hulle woon. Die steekproef verteenwoordig dus die diverse bevolking van Suid-Afrika.

Die SAEHWS, ’n selfrapporteringsinstrument wat gebaseer is op die dubbele prosesmodel van werkverwante welstand, is gebruik om al die konstrukte te meet. Die deelnemers is in drie groepe verdeel, naamlik: individue wat aangedui het dat hulle aan depressie ly en tans mediese behandeling daarvoor ontvang, individue wat aangedui het dat hulle onseker is of hulle aan depressie ly, en individue wat aangedui het dat hulle nie aan depressie ly nie.

Frekwensies is gebruik om die voorkoms van depressie in die drie verskillende groepe te bepaal en MANOVA (meer veranderlike analise van variansie) is gebruik om die betekenisvolheid van die verskille tussen die vlakke van werksbegeestering, uitbranding en

stresverwante swak gesondheidsimptome van die drie verskillende groepe (individue wat aangedui het dat hulle aan depressie ly, individue wat aangedui het dat hulle onseker is of hulle aan depressie ly, en individue wat aangedui het dat hulle nie aan depressie ly nie) te bepaal.

Die resultate het getoon dat 18,3% van die bevolking aangedui het dat hulle aan depressie ly en mediese behandeling daarvoor ontvang, 16,7% van die bevolking het aangedui dat hulle onseker is of hulle aan depressie ly en 65% van die bevolking het aangedui dat hulle nie aan depressie ly nie. Daar is verder bevind dat depressie werkstoewyding beduidend negatief beïnvloed en uitbrandingsvlakke, asook die voorkoms van stresverwante swak gesondheidsimptome beduidend positief beïnvloed.

Hierdie studie sal organisasies bewus maak van die invloed wat depressie op ’n individu se welstand het en van die feit dat depressie ’n faktor is om mee rekening te hou. Werkgewers moet maniere oorweeg om werknemers wat aan depressie ly, by te staan, asook maniere om voorkomend op te tree.

CHAPTER 1

INTRODUCTION

In this chapter the problem statement and the motivation for the research will be discussed. The purpose of the research will be formulated; the methodology of the research outlined and the methods used for statistical analysis described.

1.1 PROBLEM STATEMENT

According to the World Health Organisation (2000), depression is the most common mental health problem in the Western world. It affects approximately 340 million people worldwide and has a high prevalence in almost every society (World Health Organisation, 2010). Some studies even indicate that the prevalence of depression is increasing (Wauterickx & Bracke, 2005).

Depression can be characterised by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration (World Health Organisation, 2010). These problems can become chronic or recurrent, substantially impairing an individual's ability to cope with daily life (World Health Organisation, 2010). Different types of depression can be differentiated. The main types of depression include major depressive disorder, dysthymia, adjustment disorder, bipolar disorder and seasonal affective disorder (Williamson, 2008). Although the different types of depression have symptoms that distinguish them from one another, they also have several symptoms in common. These symptoms include changes in emotional states, changes in motivation, changes in functioning and motor behaviour and cognitive changes (Nevid, Rathus, & Greene, 2006). For the purposes of this study, a person who is receiving medical treatment for depression, irrespective of the type of depression, was considered as a person who suffers from depression.

Depression was measured with one item in the *South African Employee Health and Wellness Survey* (SAEHWS) (Rothmann & Rothmann, 2006). This item divides participants into three groups: the first group reported that they suffer from depression and are currently being

medically treated for depression, the second group reported that they are unsure whether they are suffering from depression, and the third group reported that they do not suffer from depression.

Depression has an immense impact on the individual's daily functioning and this can have severe negative implications for all organisations (Edlin, 2006). Depression is a common illness and it has a significant influence on the bottom line of organisations (Burgess, 1999). It has been found that employees who suffer from depression have significantly lower productivity levels at work and are more absent from work than colleagues who do not suffer from depression (Edlin, 2006). This finding is confirmed by a number of researchers who indicated that depression affects an individual's work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms (Demerouti, Bakker, Janssen, & Schaufeli, 2001; Fruede, Seibt, Pechk, & Ullsperger, 2005; Schaufeli & Bakker 2004; Takai et al., 2009). However, the questions as to whether differences exist in the work engagement levels, burnout levels and the stress-related ill health symptoms of individuals who reported that they suffer from depression and are currently being medically treated for depression, individuals who reported that they are unsure whether they are suffering from depression and individuals who have reported that they do not suffer from depression still prevails. Thus, the general objective of this study was to investigate the prevalence of depression in South African organisations and its relationship with work engagement, burnout and stress-related ill health across sectors in South Africa.

Kessler et al. (2003) found that 16,2% of Americans aged 18 years and older had experienced major depressive disorder (MDD) at some point in their lifetime, with 6.6% having had MDD in the past twelve months. In other studies, it was found that the prevalence of depression is higher in developing countries (Bolton, Wilk, & Ndogoni, 2004; Dodani & Zuberi, 2000; Thavichachart et al., 2001). Although some research has been done on the prevalence of depression in South Africa (Myer et al., 2008; Stein et al., 2008; Van Rooyen, 2008), none of these studies measured depression in the manner this study measured it. Furthermore, the population groups in existing South African studies are relatively small, and this study therefore used a bigger population.

Depression is a significant issue and has far-reaching consequences for organisations. However, previous research have not adequately addressed the differences in work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms amongst employees who reported that they suffer from depression and are currently being medically treated for depression, those who seem to be unsure whether they are suffering from depression and those who reported that they do not suffer from depression. Below the relationships between depression with work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms, as found in previous research, are discussed.

Work engagement can be defined as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption (Schaufeli & Bakker, 2004; Schaufeli, Salanova, Gonza´lez-Roma´, & Bakker, 2002). The three-factor structure of work engagement – vigour, dedication and absorption – were confirmed in various international studies (Schaufeli, Bakker & Salanova, 2006; Schaufeli et al., 2002). Although the three-factor structure was also confirmed in a South African study (Barkhuizen & Rothmann, 2006), one study reported that the internal consistency of absorption was not acceptable (Naude & Rothmann, 2004). This is consistent with arguments that the core of work engagement is made up of vigour and dedication (Schaufeli & Bakker, 2001). Some studies also excluded absorption as a construct of work engagement (González-Romá et al., 2006; Montgomery et al., 2003). Based on findings in early work engagement research in South Africa, a two-factor structure consisting of vigour and dedication was hypothesised and confirmed in various studies (Coetzer & Rothmann, 2007; Jackson, Rothmann & van der Vijver, 2006; Rothmann & Jorgensen, 2007; Rothmann & Pieterse, 2007). This study therefore viewed work engagement as a two-factor structure consisting of vigour and dedication. Vigour is characterised by high levels of energy and mental resilience (Schaufeli et al., 2002). Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, and challenge (Schaufeli et al., 2002).

Bakker and Demerouti (2008) found that work engagement is a positive indicator of work-related well-being. Bakker and Demerouti (2004) also suggested that engaged employees have high performance levels and are willing to do more than what is expected of them. Employee work engagement levels are also positively related to business-unit performance, like profitability, productivity, turnover and safety (Harter, Schmidt, & Hayes, 2002).

Furthermore, a global survey conducted by the Corporate Leadership Council (2004) in 27 countries with a total population group of 50 000 found a significant link between employee work engagement and business success, as well as the direct impact thereof on employee performance and retention. This clearly indicates that the cost of disengaged employees is too high for any organisation to ignore.

Hakanen, Schaufeli, and Ahola (2008) found that the dimensions of work engagement and depression correlated negatively. The argument can thus be made that an employee with high levels of work engagement will experience less depression, as such an individual experiences higher levels of energy, enthusiasm and a sense of significance. The influence depression has on work engagement is thus an important dynamic to investigate. Although a relationship between depression and work engagement has been established, it is unclear whether individuals who reported that they suffer from depression (and receive treatment), individuals who reported that they are unsure whether they suffer from depression and individuals who reported that they do not suffer from depression, experience different levels of work engagement.

According to Maslach and Jackson (1981), burnout is a type of extended response to chronic emotional and interpersonal stressors on the job. It is an individual stress experience rooted in a framework of complex social relationships. More particular, burnout is defined as an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment (Maslach, 1993). Exhaustion consists of cognitive and emotional exhaustion. Cognitive exhaustion includes difficulty making decisions and concentrating, while emotional exhaustion involves feeling depleted of one's emotional resource (Maslach & Jackson, 1981). Depersonalisation and reduced personal accomplishment or cynicism can be seen as a negative or detached response to various aspects of the work. Employees feel that they are less efficient and that they are inadequate (Maslach & Jackson, 1981).

Burnout has far-reaching effects for both the individual and the organisation. It can influence an employee's health; and the exhaustion element of burnout in particular is more predictive of stress-related health outcomes (Maslach, Schaufeli, & Leiter, 2001). Burnout has also been related to different forms of job withdrawal including absenteeism, intention to leave the job,

and actual turnover. Employees that suffer from burnout while continuing with their work are considered to experience lower productivity and are less effective at work. As a result, it is associated with decreased job satisfaction and lower levels of dedication and loyalty towards their jobs or their organisation (Maslach et al., 2001).

The relation between burnout and depression is a complex and important aspect to investigate. Schaufeli, Taris, and Van Rhenen (2008) found that burnout is related to depression, while Hakanen et al. (2008) found that burnout predicts future depression. However, the question still remains whether individuals who reported that they suffer from depression (and receive treatment), individuals who reported that they are unsure whether they suffer from depression and individuals who reported that they do not suffer from depression, experience different levels of burnout.

The World Health Organisation (2001) defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease, or infirmity". Two types of stress-related ill health can be differentiated: stress-related physical ill health and stress-related psychological ill health. Stress-related physical ill health refers to physical symptoms of stress such as sleeping disorders, changes in appetite, muscle tenderness, headaches, gastrointestinal problems and palpitations (Rothmann & Rothmann, 2006). Stress-related psychological ill health refers to psychological symptoms of stress such as irritability, low energy levels, difficulty to concentrate, loss of sense of humour, apprehensiveness, avoiding contact with people, panic or anxiety attacks, mood swings and prolonged feelings of sadness or worthlessness (Rothmann & Rothmann, 2006).

Stress-related ill health is one of the greatest contributors to absenteeism. Statistics show that healthy employees take up to nine times fewer sick days than their unhealthy colleagues. They also make up to 60% fewer errors (Reid, 2009). Recent statistics disclose that employee absenteeism in South Africa costs businesses approximately R19 billion a year (Reid, 2009). In essence it is more cost-effective in the long term to take care of employees' mental and physical health than to make alternative arrangements for low productivity levels and excessive sick leave (Reid, 2009). Depression is a common illness (Burgess, 1999), it is not something that someone makes up or imagines, and it should be treated like any other illness.

Evidence from a study conducted by Keenan-Miller, Hammen, and Brennan (2007) suggests that depression is associated with poor health outcomes. In addition, individuals who suffer from depression seem to be more likely to feel that they are susceptible to physical illness (Levinson & Druss, 2005). A study by Sharpley, Bitsika and Efremidis (1997) also suggested that stress-related ill-health contributes to an individual's depressive symptoms.

It is thus necessary to determine whether the symptoms of stress-related ill health would differ among individuals who suffer from depression (and receive treatment), individuals who are unsure whether they suffer from depression and individuals who do not suffer from depression.

Despite the known effects of depression, work engagement, burnout and stress-related ill-health, previous research have not considered the fact that the levels of these variables may differ between individuals who reported that they suffer from depression (and receive treatment), individuals who reported that they are unsure whether they suffer from depression and individuals who reported that they do not suffer from depression. Furthermore, there isn`t many existing studies about the prevalence of depression in a large South African population. This study will thus address these gaps in existing literature.

When a closer look is taken at the three groups – individuals who reported that they suffer from depression and are currently receiving medical treatment for depression, individuals who reported that they are unsure whether they are suffering from depression, and individuals who reported that they do not suffer from depression – the question arises whether the group who reported that they are suffering from depression and receiving treatment will have similar work engagement levels, burnout levels and occurrences of stress-related ill health symptoms as the individuals who reported that they are unsure whether they suffer from depression and as those who reported that they do not suffer from depression. If it is confirmed that the burnout levels and stress-related ill health symptoms are higher and work engagement levels lower for individuals who suffer from depression and who are being medically treated for their depression, it will allow organisations to explore possible strategies to improve the well-being of depression sufferers, rather than assuming that medication is sufficient.

A further point of interest will be to see how work engagement levels, burnout levels and the occurrences of stress-related ill health symptoms will differ between the group who reported that they are unsure whether they suffer from depression and the group who reported that they do not suffer from depression. The fact that these individuals are unsure whether they suffer from depression might imply that they are experiencing possible symptoms of depression, but have not received medical attention in this regard. This would suggest that their burnout and stress-related ill health symptoms would be higher, and their work engagement levels lower than individuals who do not suffer from depression.

It is evident that organisations in South Africa should consider the influence of depression on work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms and the effect thereof on employees and organisational outcomes. Therefore it is very important for employers to be aware of the prevalence of depression in their organisations and the effect thereof on their employees.

The following research questions emerge from the problem statement:

- According to literature, what is the relationship between depression, work engagement, burnout and stress-related ill health?
- What is the prevalence of depression in the study population?
- Do work engagement levels differ among individuals across sectors in South Africa who reported that they suffer from depression, those who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression?
- Do burnout levels differ among individuals across sectors in South Africa who reported that they suffer from depression, those who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression?
- Does the occurrence of stress-related ill health symptoms differ between individuals reported that they across sectors in South Africa who suffer from depression, those who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression?
- What recommendations can be made for future research?

1.2 Expected contribution of the study

Benefit for the individual

- Because organisations will be made aware of the influence of depression on individuals' well-being, the individuals in question will get more support and understanding from the organisation.
- By gaining insight in the relationships between depression, work engagement, burnout and stress-related ill health, as well as the prevalence of depression, individuals can be more prepared for and aware of the possibility of experiencing depression.

Benefit for organisations in South Africa

- This study will make organisations aware of the influence of depression on individual's well-being and the fact that depression is a factor that cannot be ignored but must be addressed. By determining the prevalence of depression in this study, organisations in South Africa can become more aware of the extent of employees suffering from depression.

Contribution to literature on industrial and organisational psychology

- Currently, a few studies exist about some of the aspects in this study. However, the concept of how work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms differ among individuals who suffer from depression (and receive treatment), individuals who are unsure whether they suffer from depression and individuals who do not suffer from depression, has not been researched yet. In particular, this phenomenon has not yet been researched across sectors in South Africa or with a large population group.

1.3 RESEARCH OBJECTIVES

The research objectives are divided into a general objective and specific objectives.

1.3.1 General objective

The general objective of this research was to investigate the prevalence of depression in South African organisations and its relationship with work engagement, burnout and stress-related ill health across sectors in South Africa.

1.3.2 Specific objectives

The specific objectives of this research are:

- To determine the relationship between depression, work engagement, burnout and stress-related ill health according to existing literature.
- To investigate the prevalence of depression in the study population.
- To determine whether work engagement levels differ among individuals across sectors in South Africa who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression.
- To determine whether burnout levels differ among individuals across sectors in South Africa who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression.
- To determine whether the occurrence of stress-related ill health symptoms differ among individuals across sectors in South Africa who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression.
- To make recommendations for future research.

1.4 RESEARCH HYPOTHESES

H_1: The work engagement levels of individuals who reported that they are unsure whether they suffer from depression will be higher than that of individuals who reported that they suffer from depression (and receive treatment) and lower than that of individuals who reported that they do not suffer from depression.

H_2: The burnout levels of individuals who reported that they are unsure whether they suffer from depression will be lower than that of individuals who reported that they suffer from depression (and receive treatment) and higher than that of individuals who reported that they do not suffer from depression.

H_3: The stress-related ill health symptoms of individuals who reported that they are unsure whether they suffer from depression will be more than that of individuals who reported that they suffer from depression (and receive treatment) and less than that of individuals who reported that they do not suffer from depression.

1.5 RESEARCH DESIGN

1.5.1 Research approach

This study is quantitative in nature. According to Struwig and Stead (2001), quantitative research is a form of conclusive research involving large representative samples and moderately structured data collection procedures. A cross-sectional research design was used for the purposes of this study. A cross-sectional study is one that takes place at a single point in time (Trochim & Donnelly, 2007). Primary data was used and a correlational approach was followed to analyse the data.

1.5.2 Research method

1.5.2.1 Literature review

In phase one, a complete review regarding depression, work engagement, burnout and stress-related ill health was done. The sources that were consulted include:

- SACat
- SAePublications
- EbscoHost
- ProQuest
- Google Scholar.

Key words that were used in the literature review included *depression, work engagement, burnout, stress-related ill health, vigour, dedication, exhaustion, cynicism, stress-related physical ill health and stress-related psychological ill health.*

1.5.2.2 Research participants

The study population consisted of 15 664 participants from several sectors in South Africa, including academic sectors, call centres, financial sectors, government, manufacturing sectors and mining sectors. The sample can be defined as an availability sample and consisted of both genders, with different marital statuses (single, engaged, married, divorced or widow/widower), between the ages of 20 and 60. Participants were from African, white, coloured and Indian racial groups. The sample population was representative of different levels of education, including primary, secondary and tertiary education. Lastly, the sample population was representative of participants from all nine provinces in South Africa and participants from all eleven official languages were included. The sample population was thus representative of the diverse population of South Africa. This large, diverse sample allowed the researcher to generalise the findings of this study to the larger South African population.

1.5.2.3 Measuring instrument

A *biographical questionnaire* was administered in order to record socio-demographic differences of the participants, including age, gender, race, language, marital status and level of education. The geographic location and sector of work was also determined.

The *South African Employee Health and Wellness Survey* (SAEHWS) was used to measure all four constructs, namely depression, work engagement, burnout and stress-related ill health (Rothmann & Rothmann, 2006).

The SAEHWS is a self-report instrument based on the dual-process model of work-related well-being. The SAEHWS assumes that the perceptions and experiences of employees can represent vital important information regarding the wellness climate in the organisation. An employee's health and wellness status are measured by the SAEHWS. The SAEHWS then

relates the measured data to the organisational climate and also compares the results to the South African norm (Rothmann & Rothmann, 2006). Rothmann and Rothmann (2006) reported that the internal consistency of the SAEHWS is acceptable, with a Cronbach alpha coefficient above 0,70.

The sections of the SAEHWS measuring depression, work engagement, burnout and stress-related ill health were used for the purposes of this study.

- To determine whether an individual suffers from *depression*, the following question was used: *yes* (currently being medically treated for depression), *unsure whether suffering from depression* and *not suffering from depression*.
- *Burnout* was measured using a seven-point Likert-type rating scale, ranging from 0 (never) to 6 (always). The measure of the exhaustion dimension (α = 0,84) consisted of five items (e.g. "I feel tired before I arrive at work") and five items was also used to measure cynicism (α = 0,81) (e.g. "I have become less enthusiastic about my work").
- *Work engagement* consists of two dimensions, namely vigour and dedication. Five items were used to measure vigour (α = 0,84) (e.g. "I am full of energy in my work"), while another five items measured dedication (α = 0,83) (e.g. "I am passionate about my job").
- The measure of *stress-related ill health* utilises a four-point Likert-type rating scale, ranging from 1 (never) to 4 (always) and includes the subscales stress-related psychological ill health (α = 0,78), which includes several symptoms like "mood swings" and stress-related physical ill health (α = 0,77), which includes several symptoms, like "headaches".

1.5.2.4 Research procedure

This project was undertaken in collaboration with Afriforte (Pty) Ltd. Data collected between 2007 and 2010 was used for this study. Informed consent was obtained from all the participants and all the participants received a link to the internet-based survey via e-mail.

1.5.2.5 Statistical analysis

The statistical analysis was conducted by means of the SPSS programme (SPSS, 2008). To analyse the data, descriptive statistics (like means, standard deviations, skewness and

kurtosis) were used. Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, the value was set at a 95% confidence interval level ($p < 0,05$). Effect sizes (Steyn, 1999) were used to determine the practical significance of the findings. A cut-off point of 0,30 (medium effect) and 0,5 (large effect) was set for the practical significance of correlation coefficients (Cohen, 1988).

Frequencies were used to determine the prevalence of depression within the three different groups (individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who do not suffer from depression).

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the levels of work engagement, burnout and stress-related ill health symptoms of individuals who suffer from depression, individuals who are uncertain whether they suffer from depression, and those who do not suffer from depression. MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent variable that maximises group differences is created from the set of dependent variables. Wilk's Lambda was used to test the likelihood of the data under the assumption of equal population mean vectors for all groups, against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect is significant in MANOVA, one-way analysis of variance (ANOVA) was used to determine which dependent variables have been affected. Because multiple ANOVAs were used, a Bonferroni-type adjustment was made for inflated Type 1 error. The Games-Howell procedure was used to determine whether statistical differences existed between the groups.

1.5 CHAPTER DIVISION

The chapters in this mini-dissertation are presented as follow:

Chapter 1: Introduction.
Chapter 2: Research article.

Chapter 3: Conclusions, limitations and recommendations.

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CHAPTER 2

RESEARCH ARTICLE

DEPRESSED, NOT DEPRESSED OR UNSURE: PREVALENCE AND THE RELATION TO WELL-BEING ACROSS SECTORS IN SOUTH AFRICA

ABSTRACT

Orientation: Depression is a major concern worldwide, necessitating the investigation of the prevalence of depression within South African sectors and an exploration into how work engagement, burnout and stress-related ill health differ among individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Research purpose: The main objectives of this study were to investigate the prevalence of depression in South African organisations and how work-related well-being factors differ among individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Motivation for the study: Organisations should be aware of the number of employees suffering from depression and the effects this could have on burnout, work engagement and stress-related ill health.

Research design, approach and method: A cross-sectional design was employed. The availability sample (n = 15 664) included participants from various different demographic backgrounds. The *South African Employee Health and Wellness Survey* (SAEHWS) was used to measure all constructs.

Main findings: The results showed that 18,3% of the population reported that they suffer from depression and receive treatment for it, 16,7% reported that they are unsure whether they suffer from depression, and 65% reported that they do not suffer from depression. Significant differences exist in the work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms between individuals who reported that they suffer from depression and receive receive treatment for depression, are unsure whether they suffer from depression, and who reported that they do not suffer from depression.

Practical/managerial implications: This study will make organisations aware of how work-related well-being variables differ among employees who suffers from depression and those that do not suffer from depression. Proactive measures to promote the work-related well-

being of employees and to support employees suffering from depression should be considered.

Contribution/value added by this study: This study provides information on the prevalence of depression in a large population and on how work-related well-being factors differ among individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Key words: Depression, work engagement, burnout, stress-related ill health, vigour, dedication, exhaustion, cynicism, stress-related psychological ill health, stress related physical ill health.

INTRODUCTION

Key focus of the study

Depression is one of the most debilitating, widespread and costly health problems worldwide and it is the most common mental health problem in the Western world (McIntyre & O'Donovan, 2004; World Health Organisation, 2000). It affects approximately 340 million people worldwide and has a high prevalence in almost every society. Furthermore, the World Health Organisation (WHO) (2000) predicts that by 2020, depression will be the second largest contributor to the global health burden. These estimates offer only a glance at the devastating consequences of depression.

Depression has a significant impact on vocational functioning and is related to work impairment, absenteeism and reduced productivity on the job (Edlin, 2006; Truax & McDonald, 2002). Furthermore, depression might impair the judgement of suffers because the condition might affect their ability to focus and concentrate and thus their ability to make decisions; this in return can result in injuries, mistakes and accidents (University of Michigan Depression Centre, 2004).

Depression creates a huge economical burden for organisations and up to 69% of the costs brought about by depression can be described as indirect costs. Indirect costs include lost productivity due to absenteeism, disability, premature mortality, and lost wages (Sullivan, 2005). Indirect costs are mostly unknown expenses and are difficult to calculate. Only 31% of the costs are direct costs, which include hospitalisation, treatment by physicians, drugs, therapy and other medical expenses (Sullivan, 2005). The per capita annual cost of depression in organisations is significantly more than that of hypertension or back problems, and comparable to that of diabetes or heart disease (Druss, Rosenheck, & Sledge, 2000). Greenberg et al. (1996) estimated that the economic costs of depression were $53 billion each year in the United States, with $33 billion of this total due to work impairment. Depression-related absenteeism was estimated to account for $24,5 billion of this total and depression-related presenteeism was estimated to account for $8,5 billion. These estimates translate into annual workplace costs of nearly $250 000 for a company with 1 000 employees.

Apart from the huge economical burden that depression creates as well as the increase it causes in presenteeism and absenteeism, a number of researchers also indicated that depression affects an individual's work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms (Demerouti, Bakker, Janssen, & Schaufeli, 2001; Fruede, Seibt, Pech, & Ullsperger, 2005; Schaufeli & Bakker 2004; Takai et al., 2009).

Background of the study

Employee work engagement is regarded as a vital driver of business success and competitive advantage. It is widely known that engaged employees have high levels of energy and are enthusiastic about their work (Schaufeli & Bakker, 2004), moreover they are often fully immersed in their work so that they experience that time flies (May et al., 2004). Engaged employees exercise influence over events that affect their lives and because of their positive attitude and activity level, they create their own positive feedback, in terms of appreciation, recognition, and success (Schaufeli et al., 2001). Furthermore, work engagement is directly linked to organisational outcomes affecting employee retention, productivity and loyalty whilst it is also a key link to customer satisfaction, company reputation and overall stakeholder value (Lockwood, 2007). According to Hakanen, Schaufeli, and Ahola (2008), work engagement and depression correlate negatively and Schaufeli, Taris, and Van Rhenen (2008) found that engagement is negatively related to high levels of depression. Because of the negative correlation between work engagement and depression it can be expected that employees suffering from depression might experience lower work engagement levels as such individuals experiences lower levels of energy, may be less enthusiastic and their sense of significance may also be negatively affected.

Burnout is a negative work- related well-being state. Employees who suffer from burnout are exhausted, cynical and they feel ineffective (Maslach, Schaufeli, & Leiter, 2001). Exhaustion interferes with effectiveness and it is difficult to gain a sense of accomplishment when feeling exhausted. Schaufeli, Taris, and Van Rhenen (2008) established a definitive relationship between burnout and depression, implying that employees who experience depression might also experience burnout. The reason for this is the fact that particularly the exhaustion component of burnout, but also the cynicism component of burnout, is related to depression (Schaufeli & Enzmann, 1998).

Stress-related ill health, both physical and psychological, have many consequences, including absenteeism, loss of attentiveness and concentration and low energy levels (Rothmann & Rothmann, 2006). Levinson and Druss (2005) found that individuals who suffer from depression seem more likely to feel that they are susceptible to physical illness. This implies that employees who suffer from depression may also suffer from other stress-related ill health symptoms as a result of their depression. Further research, especially in South Africa, is necessary to investigate how depression influences work-related well-being aspects such as work engagement, burnout and stress-related ill health.

To conduct this study, one item in the *South African Employee Health and Wellness Survey* (SAEHWS) was used to determine if a person suffers from depression (Rothmann & Rothmann, 2006). This item differentiate participants into three groups: individuals who reported that they suffer from depression and who are currently receiving medical treatment for depression, individuals who reported that they are unsure whether they suffer from depression (suspect suffering from symptoms but no medical confirmation), and individuals who reported that they do not suffer from depression. By comparing the three depression groups in terms of work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms, a clear picture of the differences between the three groups will be obtained. The prevalence of depression in the study population will also be stated, indicating which percentage of the population reported that they suffer from depression and are currently being medically treated for depression, which percentage of the population reported that they are unsure whether they suffer from depression, and which percentage of the population reported that they do not suffer from depression.

Trends identified in existing literature

Depression and the prevalence thereof

Depression can be characterised by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy and poor concentration (World Health Organisation, 2010). These problems can become chronic or recurrent and can impair an individual's ability to cope with daily life to a large extent (World Health Organisation,

2010). Different types of depression include major depressive disorder (MDD), dysthymia (less severe than major depressive disorder), adjustment disorder, bipolar disorder and seasonal affective disorder (Williamson, 2008). Although each of these different types of depression has its own discerning symptoms, they also share a number of symptoms, like changes in emotional states, changes in motivation, changes in functioning and motor behaviour and cognitive changes (Nevid, Spencer, & Greene, 2006).

For the purposes of this study, a person who is receiving medical treatment for depression will be defined as a person who suffers from depression. As previously mentioned, one item in the *South African Employee Health and Wellness Survey* (SAEHWS) was used to determine if a person suffers from depression (Rothmann & Rothmann, 2006). This item divides participants into three groups: individuals who reported that they suffer from depression and are currently receiving medical treatment for depression, individuals who reported that they are unsure whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Kessler et al. (2003) found that 16,2% of Americans aged 18 years and older had experienced major depressive disorder (MDD) at some point in their lifetime, with 6,6% having had MDD in the past 12 months. The prevalence of depression varies to some extent across countries. The World Mental Health Consortium published 12-month prevalence rates for mood disorders in 15 countries (2004), but it is very difficult to compare the different rates across the 15 countries, because the countries vary in terms of the age range of subjects interviewed, the response rates, and most importantly the diseases covered by the category "mood disorder". Three countries from the Americas participated: Colombia had a prevalence of mood disorder (MDD, dysthymia, and bipolar disorders) of 6,8%; Mexico 4,8% (with 6,6% having had MDD in the past 12 months) and the US 9,6%. Seven countries in Europe conducted surveys, but only looked at MDD and dysthymia and did not assess bipolar disorder. Belgium had a prevalence of 6,2%, France 8,5%; Germany 3,6%; Italy 3,8%; the Netherlands 6,9%; Spain 4,9% and Ukraine 9,1%. In the Middle East and Africa, Lebanon had a prevalence of mood disorder (including bipolar disorders) of 6,6% while Nigeria had the lowest prevalence rate of 0,8%. In Asia, Japan had a prevalence of 3,1%, while Beijing, China, had a prevalence of 2,5% and Shanghai, China, had a prevalence of 1,7%. An earlier WHO report, from the WHO International Consortium in Psychiatric Epidemiology, reported

the 12-month prevalence of mood disorders (MDD, dysthymia and bipolar) for Brazil to be 7,1%, for Canada 4,9%, and for Turkey 4,2%. A recent study conducted by Stein et al. (2008) investigated the lifetime prevalence of psychiatric disorders in South Africa and found that 9,8% of the population had MDD.

The paragraphs above illustrate the significance of the problem. Depression is prevalent in almost every society, but despite the seriousness of depression as a disease and the availability of effective treatment, only 30% of cases worldwide receive appropriate care (World Health Organisation, 2007). Depression has far reaching consequences and in this study differences in work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms amongst individuals who reported that they suffer from depression (and are currently receiving treatment), individuals who reported that they are unsure whether they suffer from depression, and individuals who reported that they do not suffer from depression, were examined.

Work engagement and depression

Work engagement may be described as a positive, fulfilling work-related state that is characterised by vigour, dedication, and absorption (Schaufeli & Bakker, 2004; Schaufeli, Salanova, Gonza´lez-Roma´, & Bakker et al., 2002). Vigour is characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties (Schaufeli et al., 2002). Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, and challenge (Schaufeli et al., 2002). Absorption is characterised by fully focussing on and being gladly engrossed in one's work, including the experience that time passes quickly and that one finds it difficult to detach oneself from work (Schaufeli & Bakker, 2004).

The three-factor structure of work engagement – vigour, dedication and absorption – was confirmed in various international studies (Schaufeli, Bakker & Salanova, 2006; Schaufeli et al., 2002). Although the three-factor structure was also confirmed in a South African study (Barkhuizen & Rothmann, 2006), another study reported that the internal consistency of absorption was not acceptable (Naudé & Rothmann, 2004). This is consistent with arguments that work engagement essentially involves vigour and dedication (Schaufeli & Bakker, 2001).

Some studies also excluded absorption as a construct of work engagement (González-Romá et al., 2006; Montgomery et al., 2003). Based on findings in early work engagement research in South Africa, a two factor structure consisting of vigour and dedication was hypothesised and confirmed in various studies (Coetzer & Rothmann, 2007; Jackson, Rothmann & van der Vijver, 2006; Rothmann & Jorgensen, 2007; Rothmann & Pieterse, 2007). This study therefore viewed work engagement as a two-factor structure consisting of vigour and dedication.

Engaged employees have high levels of energy, are passionate about their work, and are often fully engrossed in their job, so that they experience that time passes quickly (Bakker, 2009; Macey & Schneider, 2008; May, Gilson, & Harter, 2004). According to Bakker (2009), there are four reasons why engaged workers perform better than workers that are not engaged: engaged employees often experience positive emotions, including happiness, joy, and enthusiasm; they also experience better psychological and physical health; furthermore, they create their own job and personal resources (e.g., support from others); and lastly they transfer their work engagement to others.

The significance of work engagement is that it has constructive and positive consequences for the organisation. Research on work engagement reports that high levels of work engagement lead to enhanced organisational commitment, increased job satisfaction, lower absenteeism and turnover rates, improved health and well-being, higher performance and a greater display of personal initiative and proactive behaviour (Bakker & Demerouti, 2008; Schaufeli & Salanova, 2007). Thus, investing in conditions which foster work engagement among employees is vital for the growth and prosperity of organisations. We can therefore conclude that research supports the link between work engagement and performance and that work engagement can make a true difference for employees and may offer organisations a competitive advantage.

Furthermore, the Corporate Leadership Council (2004) has completed a global study of the work engagement level of 50 000 employees around the world (27 countries) and its direct impact on both employee performance and retention. This survey clearly indicates that the cost of disengaged employees is too high for any organisation to ignore. The Corporate Leadership Council (CLC) found that those employees who are most committed perform

20% better and are 87% less likely to leave the organisation – demonstrating the significance of work engagement to organisational performance. An investigation into both rational and emotional forms of work engagement reveals that emotional engagement is four times more important than rational engagement in driving employee effort. Employee retention, on the other hand, depends more on a balance between rational and emotional engagement – as shown by the importance of compensation and benefits in driving employees' intent to stay.

Hakanen et al. (2008) found that the dimensions of work engagement and depression correlated negatively, while Schaufeli et al. (2008) found that vigour and dedication were negatively related to depression. This means that a person who suffers from depression will have lower levels of vigour and dedication than a person who do not suffer from depression. The argument can thus be made that an employee with high levels of work engagement will experience less depression, as such an individual experiences higher levels of energy, enthusiasm and a sense of significance. When looking at the three groups in this study: individuals who reported that they suffer from depression (and are currently receiving treatment), individuals who reported that they are unsure whether they suffer from depression, and individuals who reported that they do not suffer from depression, it can be expected that the work engagement levels of individuals who reported that they are unsure whether they suffer from depression will be higher than that of individuals who reported that they suffer from depression (and receive treatment) and lower than that of individuals who reported that they do not suffer from depression (Hypothesis 1).

Burnout and depression

Burnout can be described as a type of extended response to chronic emotional and interpersonal stressors on the job (Maslach & Jackson, 1981). It is an individual stress experience embedded in a framework of complex social relationships. More particular, burnout is defined as an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment (Maslach, 1993). Exhaustion involves cognitive and emotional exhaustion. Cognitive exhaustion includes difficulty making decisions and concentrating, while emotional exhaustion entails feeling depleted of one's emotional resource. Cynicism can be seen as a negative or detached response to various aspects of the work (Maslach & Jackson, 1981).

Burnout has extensive effects on both the employee and the organisation. It is related to different forms of job withdrawal, including absenteeism, intention to leave the job, and actual turnover, and it also has the potential to influence an employee's health (Maslach et al., 2001). Various studies found that burnout is positively associated with sickness absenteeism (Bakker, Demerouti, De Boer, & Schaufeli, 2003; Lawson & O'Brien, 1994; Price & Spence, 1994). Recently, a study using a large representative Finnish sample found that employees with high burnout scores had 52 more absent sick days during the two year study period than employees with low burnout scores (Ahola et al., 2008).

Employees who suffer from burnout while continuing with their work are considered to experience lower productivity and affectivity at work. This results in decreased job satisfaction and lower levels of dedication and loyalty towards their jobs or organisation (Maslach et al., 2001).

Burned-out employees show a lack of commitment and are less capable of providing sufficient services, mainly when it comes to things like decision-making, thinking creatively and dealing with clients (Fryer, Poland, Bross, & Krugman, 1988; Levert, Lucas, & Ortlepp, 2000; Maslach, 1982; Sammut, 1997). Employees suffering from high levels of burnout are characterised by cognitive impairment and report symptoms such as inability to concentrate, forgetfulness, and difficulty with solving complex tasks (Hoogduin, Schaap, Methorst, Peters van Neyenhof, & Van de Griendt, 2001). Burnout directly affects employees in these manners and it also has an indirect effect on the organisation.

Burnout manifests through exhaustion, cynicism and reduced professional efficacy and is associated with other kinds of psychological distress, such as depression, anxiety, and insomnia (Lindblom, Linton, Fedeli, & Bryngelsson, 2006). Lindblom, Linton, Fedeli, and Bryngelsson, (2006) found a significant relation between psychological distress (depression) and burnout. Hakanen et al. (2008) found that burnout predicts future depression, while Bakker et al. (2000) indicate that burnout and depression are definitely related, although distinct concepts. Burnout is a work-related phenomenon, whereas depression is more pervasive and context free in nature. Schaufeli et al. (2008) also confirm the relation between burnout and depression. In a study conducted by Nyklíček and Pop (2005), it was apparent

that after controlling for background variables, the strongest predictor of burnout was current depressive symptomatology. In addition to this, persons who currently have depression or who had depression at any time in their lives, and individuals with a family history of depression showed considerably higher burnout levels than individuals who did not have these characteristics. The question then arises as to how the burnout levels of the three groups (individuals who indicated that they are unsure whether they suffer from depression would compare to those who have indicated that they do suffer from depression (and receive medical treatment) and those who claim they do not suffer from depression) will differ. It is expected that the burnout levels of individuals who are unsure whether they suffer from depression will be lower than that of individuals who suffer from depression (and receive treatment) and higher than that of individuals who do not suffer from depression (Hypothesis 2).

Stress-related ill health and depression

Health can be defined as "a state of complete physical, mental, and social well-being and not merely the absence of disease, or infirmity" (World Health Organisation, 2001). A distinction can be made between two types of stress-related ill health, namely stress-related physical ill health and stress-related psychological ill health. Stress-related ill health in fact involves stress-related ill health symptoms that are caused by or associated with stress. Stress-related physical ill health refers to physical symptoms of stress, including sleeping disorders, changes in appetite, muscle tenderness, headaches, gastrointestinal problems and palpitations (Rothmann & Rothmann). Edwards and Louw (1998) also found that physical ill health could include complaints such as gastrointestinal afflictions, constipation, heartburn, nausea, vomiting, headaches, migraines, back/neck aches and skin disorders. Amati and Scaife (2006) indicated that psychological ill health includes anxiety, withdrawal from work and psychological distress. Rothmann and Rothmann (2006) stated that stress-related psychological ill health refers to psychological symptoms of stress, including irritability, low energy levels and/or constant tiredness, difficulty to concentrate, loss of sense of humour, apprehensiveness, avoiding contact with people, panic or anxiety attacks, mood swings and prolonged feelings of sadness or worthlessness (Rothmann & Rothmann, 2006).

Stress-related ill health is related to a magnitude of negative outcomes for organisations, such as increased health care costs, substance abuse, reduced productivity, turnover and legal problems, as well as violence and increased absenteeism (Geurts & Demerouti, 2003; Reid, 2009). Stress-related ill health is one of the greatest contributors to absenteeism. Statistics show that healthy employees take up to nine times fewer sick days than their unhealthy colleagues. They also make up to 60% fewer errors (Reid, 2009). Recent statistics disclose that employee absenteeism in South Africa costs businesses approximately R19 billion a year (Reid, 2009). In essence, it is more cost-effective in the long term to take care of employees' mental and physical health than to make alternative arrangements for low productivity levels and excessive sick leave (Reid, 2009).

Depression is an illness that is estimated to have a more vital impact on work performance than that of chronic forms of illness like arthritis, hypertension, back problems and diabetes (Kessler & Greenberg, 2001; Wells et al., 1989). It is a destructive and disabling disease that affects many aspects of an individual's life, including the work domain. Depression can also bring about problems such as absenteeism, job turnover, difficulty making decisions, a decline in productivity and an increase of alcohol consumption (Johnson & Indvik, 1997).

According to Pinto (2005), depression is frequently seen in association with chronic medical illness and leads to increased morbidity, mortality and healthcare costs. Smith, Corvalán, and Kjellström (1999) found that depression does not cause much direct mortality but significant disability. By interfering with a person's willingness to partake in rehabilitation and by associated poor diet, lack of exercise and overall poorer self-care, depression usually worsens physical ill health more indirectly (Smyth, 2009). Evidence from a study conducted by Keenan-Miller, Hammen, and Brennan (2007) suggests that depression is associated with poor health outcomes. In addition, individuals who suffer from depression, seem to be more likely to feel that they are susceptible to physical illness (Levinson & Druss, 2005). Lastly, a study by Sharpley, Bitsika, and Efremidis (1997) suggested that stress-related ill-health contributes to an individual's depressive symptoms. The question that still prevails is how the occurrence of stress-related ill health symptoms will differ for the three groups: individuals who indicated that they suffer from depression (and are receiving medical treatment), individuals who indicated that they are unsure whether they suffer from depression, and those who claim they do not suffer from depression. It is expected that the stress-related ill health

symptoms of individuals who reported that they are unsure whether they suffer from depression will be more than that of individuals who reported that they suffer from depression (and receive treatment) and less than that of individuals who reported that they do not suffer from depression (Hypothesis 3).

Summary

Concerning the relationships between depression and work engagement, burnout and stress-related ill health, it can be concluded that people who suffer from depression will experience low work engagement levels, high burnout levels and more stress-related ill health symptoms than people who do not suffer from depression. Although these relationships have been established between depression and the three well-being constructs, it is still unclear how these relationships will differ for the three different groups included in this study, namely individuals who reported that they suffer from depression and who currently receive medical treatment for depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression. Furthermore, it can be concluded that although depression is prevalent in almost all populations, it is unclear what the exact prevalence of self-reported depression is in a large population group within South Africa.

The general aim of this study is therefore to determine the prevalence of depression in a large population and to determine whether work engagement, burnout and stress-related ill health levels differ among individuals across sectors in South Africa who reported that they suffer from depression and who are currently receiving medical treatment for depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Research objectives

The general objective of this research is to investigate the prevalence of depression in South African organisations and the relationship of depression with work engagement, burnout and stress-related ill health across sectors in South Africa. The specific objectives of this research is to determine if work engagement, burnout, and stress-related ill health levels differ among

individuals across sectors in South Africa who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression.

What will follow

In the section to follow, the prevalence of depression across sectors in South Africa and also the relation between depression and work engagement, burnout and stress-related ill health will be explored by means of a quantitative approach. The research method, which includes the characteristics of the participants, the measuring instrument, the research procedure and the statistical analysis, will be discussed. Results of the statistical analysis will then be discussed, followed by the conclusions.

The potential value added by the study

This study will be valuable to employees and organisations in South Africa. By gaining insight in the relationships between depression and various aspects of well-being, and into the prevalence of depression in a large population, organisations will be made aware of the influence of depression on an employee's vocational functioning. This study will support the notion that depression is a factor that cannot be ignored.

Although there are a few existing studies on some of the aspects dealt with in this study, the concept of how work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms differ among individuals who reported that they suffer from depression (and receive treatment), individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression, has not been researched yet. In particular, there are no studies using a population across sectors in South Africa or studies using a large population group.

RESEARCH DESIGN

Research approach

This study is quantitative in nature. Quantitative research is a form of conclusive research involving large representative samples and moderately structured data collection procedures (Struwig & Stead, 2001). A cross-sectional research design was also used for the purposes of this study. A cross-sectional study is one that takes place at a single point in time (Trochim & Donnelly, 2007). Primary data was used and a correlational approach was followed to analyse the data.

Research method

Research participants

The study population consisted of 15 664 participants from several sectors in South Africa, including academic sectors, call centres, financial sectors, government, manufacturing sectors and mining sectors. An availability sample strategy was followed and the study population included both genders and individuals with different marital statuses (single, engaged, married, divorced or widow/widower), between the ages of 20 and 60. Participants were from African, white, coloured and Indian racial groups and had different levels of education, including primary, secondary and tertiary education. Lastly, the sample population represented all nine provinces in South Africa and participants from all eleven official languages were included. The sample population was thus representative of the diverse nature of South Africa. Table 1 shows the characteristics of the participants.

Table 1

Characteristics of the Participants (n = 15 664)

Item	Category	Frequency	Percentage
Gender	Male	9697	61,9
	Female	5966	38,1
Race	Black	4334	27,7
	Coloured	609	3,9
	Indian	395	2,5
	White	5638	36
	Other	12	0,1
	Not indicated	4675	29,8
Language	Afrikaans	5982	38,2
	English	4652	29,7
	Sesotho	1200	7,7
	isiZulu	1018	6,5
	Setswana	849	5,4
	isiXhosa	741	4,7
	Sepedi	504	3,2
	Xitsonga	202	1,3
	Siswati	181	1,2
	Tshivenda	112	0,7
	isiNdebele	100	0,6
	Other	121	0,8
Marital status	Married	9761	62,3
	Single	4497	28,7
	Divorced	955	6,1
	Engaged	289	1,8
	Widow	111	0,7
	Widower	50	0,3
Education level	Grade 8	2003	12,8
	Grade 9	119	0,8
	Grade 10	679	4,3
	Grade 11	299	1,9
	Grade 12	7914	50,5
	4 Year Degree/Diploma	1075	6,9
	5 to 7 Year Degree	213	1,4
	Master`s Degree	446	2,8

Table 1 continues

Characteristics of the Participants (n = 15 664)

	Doctoral Degree	70	0,4
Province	Gauteng	7390	47,2
	North West Province	3171	20,2
	Mpumalanga	2293	14,6
	Free State	887	5,7
	Western Cape	691	4,4
	Kwa-Zulu Natal	630	4,0
	Eastern Cape	343	2,2
	Limpopo	143	0,9
	Northern Cape	74	0,5
Sector	Financial	6370	40,7
	Mining	5197	33,2
	Manufacturing	3467	22,1
	Government	263	1,7
	Call centres	150	1,0
	Academic	94	0,6
	Other	122	0,8
Age	Younger than 20	82	0,5
	20-29	4064	25,9
	30-39	4414	28,2
	40-49	4341	27,7
	50-59	2324	14,8
	Older than 60	200	1,3
	Missing values	238	1,5

The study population consisted mainly of participants working in the financial sector (40,7%). Furthermore, the population mainly consisted of males (61,9%), of whom 62,3% were married and between the ages of 30 and 39 years (28,2%). White (36%), Black (27,7%), coloured (3,9%), and Indian (2,5%) racial groups were represented, of whom 50,5% completed grade 12. 47,2% of the participants resided in Gauteng. 38,2% of the participants were Afrikaans-speaking and 29,7% were English-speaking.

Measuring instruments

The following questionnaires were used in the empirical study:

A *biographical questionnaire* was administered in order to record socio-demographic characteristics of the participants, including age, gender, race, language, marital status and level of education. The geographic location and sector of work were also determined.

The *South African Employee Health and Wellness Survey* (SAEHWS) was used to measure all four constructs, namely depression, work engagement, burnout and stress-related ill health (Rothmann & Rothmann, 2006). The SAEHWS is a self-report instrument based on the dual-process model of work-related well-being. The SAEHWS assumes that the perceptions and experiences of employees can represent vital important information regarding the wellness climate in the organisation. An employee's health and wellness status is measured by the SAEHWS. The SAEHWS then relates the measured data to the organisational climate and also compares the results to the South African norm (Rothmann & Rothmann, 2006). Rothmann and Rothmann (2006) reported that the internal consistency of the SAEHWS is acceptable, with a Cronbach alpha coefficient above 0,70.

The sections of the SAEHWS measuring depression, work engagement, burnout and stress-related ill health were used for the purposes of this study.

To determine whether an individual suffers from *depression*, the following question was used: *Yes* (currently being medically treated for depression), *unsure whether suffering from depression*, and *not suffering from depression*. *Burnout* was measured using a seven-point Likert-type rating scale, ranging from 0 (never) to 6 (always). The measure of the *exhaustion* dimension (α = 0,84) consisted of five items (e.g. "I feel tired before I arrive at work"), and five items were also used to measure *cynicism* (α = 0,81) (e.g. "I have become less enthusiastic about my work"). *Work engagement* consists of two dimensions, namely vigour and dedication. Five items were used to measure *vigour* (α = 0,84) (e.g. "I am full of energy in my work"), while another five items measured *dedication* (α = 0,83) (e.g. "I am passionate about my job"). The measure of *stress-related ill health* utilises a four-point Likert-type rating scale, ranging from 1 (never) to 4 (always) and includes the subscales *stress-related*

psychological ill health (α = 0,78), which includes several symptoms, like "mood swings", and *stress-related physical ill health* (α = 0,77), which includes several symptoms, like "headaches".

Research procedure

This project was undertaken in collaboration with Afriforte (Pty) Ltd. Data collected between 2007 and 2010 was used for this study. Informed consent was obtained from all the participants and all the participants received a link to the internet-based survey via e-mail.

Statistical analysis

The statistical analysis was carried out by means of the SPSS programme (SPSS, 2008). To analyse the data, descriptive statistics (means, standard deviations, skewness and kurtosis) were used. Pearson product-moment correlation coefficients were used to specify the relationship between the variables. In terms of statistical significance, the value was set at a 95% confidence interval level ($p < 0,05$). Effect sizes (Steyn, 1999) were used to determine the practical significance of the findings. A cut-off point of 0,30 (medium effect) and 0,50 (large effect) was set for the practical significance of correlation coefficients (Cohen, 1988).

Frequencies were used to determine the prevalence of depression in the three different groups (individuals who reported that they suffer from depression, those who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression).

Multivariate analysis of variance (MANOVA) was used to determine the significance of differences between the levels of work engagement, burnout and ill-health symptoms of individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression.

MANOVA tests whether mean differences among groups on a combination of dependent variables are likely to have occurred by chance (Tabachnick & Fidell, 2001). In MANOVA, a new dependent variable that maximises group differences is created from the set of dependent

variables. Wilk's Lambda was used to test the likelihood of the data under the assumption of equal population mean vectors for all groups, against the likelihood under the assumption that the population mean vectors are identical to those of the sample mean vectors for the different groups. When an effect is significant in MANOVA, one-way analysis of variance (ANOVA) was used to determine which dependent variables were affected. Because multiple ANOVAs were used, a Bonferroni-type adjustment was made for inflated Type 1 error. The Games-Howell procedure was used to determine whether statistical differences exist between the groups.

RESULTS

The descriptive statistics and alpha coefficients of the measuring instruments are given in Table 2.

Table 2

Descriptive Statistics and Cronbach Alpha Coefficients of the Measuring Instruments (n = 15 664)

Item	Mean	*SD*	Skewness	Kurtosis	α
Depression	2,47	0,78	-1,03	-0,6	n/a*
Vigour	22,30	5,45	-0,74	0,38	0,84
Dedication	23,28	6,04	-1,03	0,76	0,83
Exhaustion	13,16	6,38	0,16	-0,32	0,84
Cynicism	7,18	5,52	0,52	-0,41	0,81
Stress-related psychological ill health	17,76	6,39	0,60	-0,36	0,78
Stress-related physical ill health	12,82	4,45	0,41	-0,62	0,77

*In the SAEWHS depression is measured by using only one self-report item, therefore no alpha is available.

Acceptable Cronbach alpha coefficients were obtained for all the scales. All the alpha coefficients were higher than the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994). All the items are normally distributed, except for depression and dedication. The results of the

product-moment correlation coefficients between the constructs are reported in Table 3. As indicated in Table 2, depression and dedication were not normally distributed. It was therefore decided to use Spearman product-moment correlations for these two scales. Pearson product-moment correlations were used for all the other scales.

Table 3

Correlation Coefficients between Depression, Work Engagement, Burnout and Stress-Related Ill health (n = 15 664)

	α	1	2	3	4	5	6	7
1. Depression	n/a	1,00	-	-	-	-	-	-
2. Vigour	0,84	-0,34^{*+}	1,00	-	-	-	-	-
3. Dedication	0,83	-0,26*	0,76^{*++}	1,00	-	-	-	-
4. Exhaustion	0,84	0,35^{*+}	-0,53^{*++}	-0,38^{*+}	1,00	-	-	-
5. Cynicism	0,81	0,30*	-0,58^{*++}	-0,61^{*++}	0,51^{*++}	1,00	-	-
6. Stress-related physical ill health	0,77	0,45^{*+}	-0,41^{*+}	-0,28*	0,54^{*++}	0,36^{*+}	1,00	-
7. Stress-related psychological ill health	0,78	0,51^{*++}	-0,54^{*++}	-0,41^{*+}	0,61^{*++}	0,50^{*+}	0,73^{*++}	1,00

* Correlation is significant at the 0,01 level
$^{+}$ Correlation is practically significant $r > 0,30$ (medium effect)
$^{++}$Correlation is practically significant $r > 0,50$ (large effect)

Table 3 indicates that stress-related psychological ill health is statistically and practically significantly related (with a large effect) to depression, vigour and exhaustion, and statistically and practically significantly related (with a medium effect) to dedication and cynicism. A statistical and practical significance (with a large effect) has been established between physical stress-related ill health and exhaustion, and a practical significance (with a medium effect) has been established between physical stress-related ill health and depression, vigour and cynicism. As illustrated in Table 3, cynicism is statistically and practically significantly related (with a large effect) to vigour, dedication and exhaustion. Exhaustion is statistically and practically significantly related (with a large effect) to vigour, and practically significantly related (with a medium effect) to depression and dedication. A statistical and practical significance (with a large effect) has been established between dedication and

vigour. Lastly, Table 3 shows that vigour is statistically and practically significantly related (with a medium effect) to depression.

To calculate the prevalence of depression in the three different groups, as illustrated in Table 4, frequencies were used.

Table 4

Frequencies Illustrating the Prevalence of Depression in the Three Depression Groups.

Item	Category	Frequency	Percentage
Depression	Group 1: Suffering from depression	2865	18,3
	Group 2: Unsure whether suffering from depression	2611	16,7
	Group 3: Not suffering from Depression	10186	65,0

Table 4 illustrates that 18,3% of the population reported that they suffered from depression and were receiving treatment for it, 16,7% of the population reported that they were unsure whether they suffered from depression, and 65% of the population reported that they did not suffer from depression.

Next, MANOVA was used to determine differences in work engagement, burnout and stress-related ill health levels among the three different depression groups (suffering from depression, unsure, and not suffering from depression). Results were first analysed for statistical significance, using Wilk's Lambda statistics. ANOVA was used to determine specific differences if a statistical difference was found. The results of the MANOVA analyses are given below in Table 5.

Table 5

MANOVA – Differences in Work Engagement, Burnout and Stress-Related Ill health Levels of Depression Groups

Variable	Value	*F*	*Df*	*p*	Partial Eta Squared
Depression	0,70	515.11	12	0,00*	0,17

*$p \leq 0,05$ = statistically significant

In an analysis of Wilk's Lambda values, a statistically significant difference ($p \leq 0,05$) regarding work engagement, burnout and stress-related ill health levels was found among the different depression groups and was further analysed using ANOVA. Because sample sizes were different, the Games-Howell procedure was used to determine whether there were any statistical differences among the groups.

The results of the three ANOVAs follow in table 6, 7 and 8.

Table 6

ANOVA - Differences in Work Engagement Levels Based on Depression group

Item	Yes	Unsure	No	*p*	Partial Eta Squared
Vigour	19,26	20,33	23,67	0,00*	0,12
Dedication	20,79	21,38	24,46	0,00*	0,07

*$p \leq 0,05$ = statistically significant

Table 6 shows statistically significant differences between levels of vigour and dedication. Participants who do not suffer from depression experience higher levels of vigour than participants who are unsure whether they suffer from depression and participants who suffer from depression. Participants who do not suffer from depression also experience higher levels of dedication than participants who are unsure whether they suffer from depression and participants who suffer from depression.

Table 7

ANOVA - Differences in Burnout Levels Based on Depression group

Item	Yes	Unsure	No	*p*	Partial Eta Squared
Exhaustion	16,94	15,46	11,50	0,00*	0,13
Cynicism	9,81	9,03	5,97	0,00*	0,09

*$p \leq 0{,}05$ = statistically significant

Table 7 shows statistically significant differences between levels of exhaustion and cynicism. Participants who suffer from depression and participants who are unsure whether they suffer from depression experience higher levels of exhaustion than participants who do not suffer from depression. Participants who suffer from depression and participants who are unsure whether they suffer from depression also experience higher levels of cynicism than participants who do not suffer from depression.

Table 8

ANOVA - Differences in Stress-Related Ill health Levels Based on Depression group

Item	Yes	Unsure	No	*p*	Partial Eta Squared
Stress-related psychological ill health	23,47	21,07	15,31	0,00*	0,29
Stress-related physical ill health	16,22	14,84	11,34	0,00*	0,21

*$p \leq 0{,}05$ = statistically significant

Table 8 shows statistically significant differences between levels of stress-related psychological ill health and stress-related physical ill health. Participants who suffer from depression and participants who are unsure whether they suffer from depression experience higher levels of stress-related psychological ill health than participants who do not suffer from depression. Participants who suffer from depression and participants who are unsure whether they suffer from depression also experience higher levels of stress-related physical ill health than participants who do not suffer from depression.

DISCUSSION

The general aim of this study was to determine the prevalence of depression in the study population across South African sectors and to establish whether work engagement, burnout and stress-related ill health levels differ among individuals across sectors in South Africa who reported that they suffer from depression and who are currently receiving medical treatment for depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression.

Cronbach alpha coefficients varying from 0,77 to 0,84 were obtained for the different constructs. All the alpha coefficients were higher than the guideline of $\alpha > 0{,}70$ (Nunnally & Bernstein, 1994). Most of the constructs, except depression and dedication, had relatively normal distributions, with low skewness and kurtosis.

A Pearson product-moment correlation was conducted to determine the relationship between the variables. The results obtained indicated that depression correlated negatively with vigour and dedication, which means that an individual who suffers from depression will have low vigour and dedication levels. Several previous studies have found similar results (Hakanen et al., 2008). Furthermore, depression correlated positively with exhaustion, cynicism, stress-related psychological ill health and stress-related physical ill health. Therefore, an individual who suffers from depression will have high exhaustion levels, high levels of cynicism and increased stress-related psychological and physical ill health symptoms. This corresponds with the results of previous studies (Levinson & Druss, 2005; Nyklíček & Pop, 2005; Sharpley et al., 1997).

To calculate the prevalence of depression, frequencies were used for all three groups. It was found that 18,3% of the population reported that they suffer from depression and are currently receiving medical treatment for it, 16,7% of the population reported that they are unsure whether they suffer from depression and 65% of the population reported that they do not suffer from depression. The prevalence found in this study is considerably higher than the prevalence of depression in other countries (i.e. Kessler et al., 2003; World Health Organisation, 2010). This serves as proof of the extent of the problem.

Next, MANOVA and ANOVA were used to determine differences in work engagement, burnout and stress-related ill health levels of the three different depression groups (suffering from depression, unsure, and not suffering from depression). Statistically significant differences between levels of vigour and dedication were found for the three different groups. Participants who reported that they do not suffer from depression experienced higher levels of vigour and dedication than participants who reported that they are unsure whether they suffer from depression and participants who reported that they suffer from depression. Hence, the engagement levels of individuals who reported that they are unsure whether they suffer from depression is higher than that of individuals who reported that they suffer from depression (and receive treatment) and lower than that of individuals who reported that they do not suffer from depression. Thus, Hypothesis 1 is confirmed. This was also found in a recent study by Schaufeli et al (2008). One possible explanation for this finding is rooted in the literature on affect. The negative affect generally associated with depression may be the cause for a decline in work engagement levels of individuals suffering from depression (Bosman, Rothmann & Buitendach, 2005). Furthermore, the engagement levels of individuals who indicated that they suffer from depression (and are receiving treatment) and individuals who indicated that they are unsure whether they suffer from depression, were very close together. The engagement levels of both these groups were also lower than the group of individuals who indicated that they do not suffer from depression.

Statistically significant differences were also found with regard to exhaustion and cynicism. The burnout levels of individuals who reported that they are unsure whether they suffer from depression is lower than that of individuals who reported that they suffer from depression (and receive treatment) and higher than that of individuals who reported that they do not suffer from depression. Thus, Hypothesis 2 is confirmed. A possible explanation for the higher burnout levels amongst individuals who suffer from depression and those who are unsure whether they suffer from depression, as opposed to those not suffering from depression, might be because of the fact that "good mental health, including absence of (a vulnerability to) depression, protects against work stress, attenuating the risk to get involved in the burnout process" (Nyklíček & Pop, 2005:67). Furthermore, the burnout levels of individuals who reported that they suffer from depression (and are receiving treatment) and individuals who reported that they are unsure whether they suffer from depression, were very

close together and both groups' burnout levels were distinctively higher than the burnout levels of the group of individuals who reported that they do not suffer from depression.

Statistically significant differences were also found between levels of stress-related psychological ill health and stress-related physical ill health. Participants who reported that they suffer from depression and participants who reported that they were unsure whether they suffer from depression experience higher levels of both stress-related psychological ill health and stress-related physical ill health than participants who reported that they do not suffer from depression. The occurrence of stress-related ill health symptoms of individuals who reported that they are unsure whether they suffer from depression is lower than that of individuals who reported that they suffer from depression (and receive treatment) and higher than that of individuals who reported that they do not suffer from depression. Thus, Hypothesis 3 is confirmed. These findings correspond with those of various researchers. For instance, Werngren-Elgström, Dehlin, and Iwarsson (2003) found that individuals suffering from depression tend to report lower subjective physical, mental and social wellbeing. Similarly, Little et al. (2001) suggested that depression is related to perceived health, somatic symptoms, health and anxiety. The occurrence of stress-related ill health symptoms of individuals who reported that they suffer from depression (and receive treatment) and individuals who reported that they are unsure whether they suffer from depression were also closely related and both groups experienced a considerably higher occurrence of stress-related ill health symptoms than the group of individuals who indicated that they do not suffer from depression.

The fact that both groups – individuals who reported that they suffer from depression and individuals who reported that they are unsure whether they suffer from depression – experience lower work engagement levels, higher burnout levels and more stress-related ill health symptoms than individuals who reported that they do not suffer from depression, is a significant finding. Especially since the levels of work engagement, burnout and stress-related ill health symptoms for both groups (individuals who indicated that they suffer from depression and individuals that indicated that they are unsure whether they suffer from depression) fell into a range that is very close together. The reason why individuals who reported that they are unsure whether they suffer from depression also experience lower work engagement levels, higher burnout levels and more stress-related ill health symptoms, may be

that those individuals already experience several symptoms of depression, although they have not been diagnosed with depression yet. It may also indicate that these individuals already suspect that they suffer from depression, but have not been diagnosed yet. If this is in fact the case, the prevalence of depression in the study populations would increase from 18,3% to 35%, implying that more than one third of this large population suffer from depression.

The question then arises as to why individuals who suffer from depression and receive medical treatment for their condition still suffer from low work engagement levels, high burnout levels and more stress-related ill health symptoms. According to Kline and Sussman (2000), managerial responses to employee depression too often reflect a poor understanding of successful treatment and unreasonable expectation concerning the time required for successful treatment. Kline and Sussman (2000) also indicate that although antidepressants typically produce a faster treatment response than therapy, the response time is still much longer than that for an antibiotic, for example. Antidepressants produce molecular changes in the brain which occur only after several weeks of treatment. Some patients also do not respond to the initial treatment with medication, in such instances, the psychiatrist (who subscribes the medicine) will probably increase the dose, change medication, or add an augmenting agent, each requiring several weeks to evaluate its therapeutic effect (Goldman, McCulloch, & Sturm, 1998). In reality, individuals who receive treatment for depression are given the treatment and thrown back into the workplace immediately. Thus, they do not have sufficient time to recover completely and depressive symptoms still remain, causing lower work engagement levels, higher burnout levels and more stress-related ill health symptoms.

Although the research shows promising results, it was not without its limitations. The first limitation of this study was the cross-sectional research design used in this study. A longitudinal design would allow researchers to draw accurate conclusions regarding causal inferences and the influence of changes in depression, burnout, work engagement, and ill-health symptoms over time. A further limitation is that the results were obtained solely by self-report measures: this may lead to a problem known as “method variance” or “nuisance”. However, several authors argue that this phenomenon is not a major threat if interactions are found (Dollard & Winefield, 1998; Spector, 1992; Semmer, Zaptl, & Grief, 1996). The fact that depression was measured by means of only one item in the SAEHWS can also be viewed as a limitation. A more extensive way of measuring depression is suggested for future

researchers. A further limitation may be the definition used for depression in this study. For the purposes of this study, an individual who is receiving medical treatment for depression was defined as an individual who suffers from depression. However, there are various different types of depression, for instance major depressive disorder, bipolar disorder and dysthymia, to name but a few types. Because the work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms may vary for individuals suffering from different types of depression, it is suggested that future studies differentiate among the different types of depression when exploring the relationship of depression with work engagement, burnout and stress-related ill health.

Despite these limitations, the findings of this study may have important implications for future research and practice. To become aware of the problems of depression, it is advised that organisations investigate and do an extensive analysis of what the actual prevalence of depression is in their own organisation, and also how it will affect their specific sector. Organisations should implement long-term programmes to educate management and employees about the existence and consequences of depression. Employees should be encouraged to seek treatment. By making treatment easily obtainable and by providing the correct support, employers will benefit in the long run. The drafting of an extensive policy will provide clear guidelines for both management and employees concerning treatment. A multidisciplinary approach with collaboration of the organisation's industrial psychologist / human resource practitioner as co-ordinator is strongly advised.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter will provide conclusions regarding the results of the research article. The limitations of this research are discussed, followed by recommendations for the organisation and for future research.

3.1 CONCLUSIONS

The general objective of this research was to investigate the prevalence of depression in South African organisations and its relationship with engagement, burnout and stress-related ill health across sectors in South Africa.

The first objective was to investigate the prevalence of depression in the three different depression groups (individuals who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and individuals who reported that they do not suffer from depression). In a study conducted by Kessler et al. (2003) it was found that 16,2% of Americans aged 18 years and older had experienced major depressive disorder (MDD) at some point in their lifetime, with 6,6% having had MDD in the past 12 months. A recent study conducted by Stein et al. (2008) investigated the lifetime prevalence of psychiatric disorders in South Africa and found that 9,8% of the population had MDD. This study found that 18,3% of the population reported that they suffer from depression and currently receive treatment for it, 16,7% of the population reported that they are unsure whether they suffer from depression, and 65% of the population reported that they do not suffer from depression.

The second objective was to determine the relationship between depression, work engagement, burnout and stress-related ill health according to the literature. Hakanen, Schaufeli, and Ahola (2008) established that the dimensions of work engagement and depression correlate negatively, meaning that an employee with high levels of work engagement will experience low levels of depression, as such an individual experiences higher levels of energy, enthusiasm and a sense of significance. Hakanen et al. (2008) also

found that burnout predicts future depression. Bakker et al. (2000) and Schaufeli, Taris, and Van Rhenen (2008) confirm the relations between burnout and depression. Depression is an illness that is estimated to have a more vital impact on work performance than chronic forms of illness like arthritis, hypertension, back problems and diabetes (Kessler & Greenberg, 2001; Wells et al., 1989). It is a destructive and disabling disease that affects many aspects of an individual's life, including the work domain. Evidence from a study conducted by Keenan-Miller, Hammen, and Brennan (2007) suggests that depression is associated with poor health outcomes. In addition, individuals who suffer from depression seem more likely to feel that they are susceptible to physical illness (Levinson & Druss, 2005).

The third objective was to determine if work engagement levels differ between individuals across sectors in South Africa who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression. It was found that participants who do not suffer from depression experienced higher levels of vigour than participants who are unsure whether they suffer from depression and participants who suffer from depression. Participants who do not suffer from depression also experience higher levels of dedication than participants who are unsure whether they suffer from depression and participants who suffer from depression. The conclusion can thus be drawn that participants who suffer from depression and participants who are uncertain whether they suffer from depression have significantly lower work engagement levels than participants who do not suffer from depression.

The fourth objective was to determine whether burnout levels differ among individuals across sectors in South Africa who reported that they suffer from depression, individuals who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression. It was found that participants who suffer from depression and participants who are uncertain whether they suffer from depression experienced higher levels of exhaustion than participants who do not suffer from depression. Participants who suffer from depression and participants are uncertain whether they suffer from depression also experience higher levels of cynicism than participants who do not suffer from depression. It can thus be concluded that participants who suffer from depression and participants who are uncertain whether they suffer from depression, have significantly higher burnout levels than participants who do not suffer from depression.

The fifth objective was to determine if the occurrence of stress-related ill health symptoms differ among individuals across sectors in South Africa who reported that they suffer from depression, who reported that they are uncertain whether they suffer from depression, and those who reported that they do not suffer from depression. Participants who suffer from depression and participants who are uncertain whether they suffer from depression experienced higher levels of stress-related psychological ill health than participants who do not suffer from depression. Participants who suffer from depression and participants are uncertain whether they suffer from depression also experience higher levels of stress-related physical than participants who do not suffer from depression. Thus it can be concluded that participants who suffer from depression and participants who are uncertain whether they suffer from depression experience significantly higher levels of stress-related ill health than participants who do not suffer from depression.

In respect of the fifth, fourth and sixth objectives, it was found that both groups (individuals who reported that they suffer from depression and individuals who reported that they are uncertain whether they suffer from depression) experience lower levels of work engagement, higher levels of burnout and more stress-related ill health symptoms than individuals who do not suffer from depression. This is quite significant, as individuals who are uncertain whether they suffer from depression may possibly also experience lower levels of work engagement, higher levels of burnout and more stress-related ill health symptoms because they may already experience several symptoms of depression. Thus, they may already suspect that they are suffering from depression, although they have not been diagnosed with depression yet. If this is in fact the case, the prevalence of depression in South African sectors would increase from 18,3% to 35%, implying that more than one third of the study population suffer from depression.

The question then arises why individuals who suffer from depression and receive medical treatment for their condition still suffer from low levels of work engagement, high levels of burnout and more stress-related ill health symptoms. According to Kline and Sussman (2000), managerial responses to employee depression too often reflect a poor understanding of successful treatment and unreasonable expectations regarding the time required for treatment. Kline and Sussman (2000) also indicate that although antidepressants typically produce faster results than therapy, the response time is still much longer than that of an

antibiotic, for instance. Antidepressants produce molecular changes in the brain which occur only after several weeks of treatment. Some patients also do not respond to the initial treatment with medication. In such instances the psychiatrist (who subscribes the medicine) will probably increase the dose, change medication, or add an augmenting agent, each requiring several weeks to evaluate its therapeutic effect (Goldman, McCulloch, & Sturm, 1998). In reality, individuals who receive treatment for depression are given the treatment and thrown back into the workplace immediately. Thus, they do not have enough time to recover completely and depressive symptoms still remain, causing lower levels of work engagement, higher levels of burnout and more stress-related ill health symptoms.

3.2 LIMITATIONS OF THIS RESEARCH

The present research is not without limitations. The following limitations were identified:

The first limitation is the cross-sectional research design used in this study. A cross-sectional study is one that takes place at a single point in time (Trochim & Donnelly, 2007). It is suggested that in future studies, a longitudinal design be used. A longitudinal design would allow researchers to draw accurate conclusions regarding causal inferences and the influence of changes in depression, burnout, work engagement, and ill-health symptoms over time.

A further limitation is that the results were obtained solely by self-report measures. This may lead to a problem known as “method variance” or “nuisance”. However, several authors argue that this phenomenon is not a major threat if interactions are found (Dollard & Winefield, 1998; Semmer et al., 1996; Spector, 1992).

The fact that depression was measured by means of only one item in the SAEHWS can also be viewed as a limitation. A more extensive way of measuring depression is suggested for future research. It is also be possible that some of the participants did not trust the confidentiality of the questionnaire, and this could have influenced some of the results.

Lastly, the definition used for depression in this study may be limiting. For the purposes of this study, an individual who is receiving medical treatment for depression was defined as an individual who suffers from depression. However, there are various different types of

depression and the work engagement levels, burnout levels and occurrence of stress-related ill health symptoms may vary for individuals suffering from different types of depression. Therefore it is suggested that future studies differentiate between the different types of depression when exploring its relationship with work engagement, burnout and stress-related ill health.

3.3 RECOMMENDATIONS

Despite these limitations, the following recommendations are made for the organisation as well as for future research.

3.3.1. Recommendations for the organisation

Depression and the effects thereof should be a major concern for employers, because of the high prevalence thereof and its association with functional impairment among employees (Steffick, Fortney, Smith, & Pyne, 2006). The negative influence of depression on employees` work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms is also a cause for major concern.

It is advised that employers investigate and extensively analyse the actual prevalence of depression in their own organisation and the effect this prevalence has on the employees work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms. Human resource practitioners in an organisation should estimate the direct and indirect costs of depression for the organisation, taking the effect of depression on work engagement, burnout and stress-related ill health into account. Practitioners can also compile an extensive report for management, emphasising the total economic impact on the company and the outcomes the company can expect from providing support for the employees who suffer from depression and for implementing preventative and supporting measures. It should be emphasised that money spent on these exercises is an investment for the organisation (The American Psychiatric Foundation, 2006).

Considering the pervasive nature of depression, organisations should implement long-term programmes to educate management and employees on the prevalence and consequences of

depression, and employees should be encouraged to seek treatment. In the long run, employers will benefit from making treatment easily obtainable and from providing the correct support.

It is also important for management and employees to be able to identify the causes and indicators of low work engagement levels, high burnout levels and stress-related ill health symptoms. This could help organisations to manage their internal work engagement levels, burnout levels and the occurrence of ill-health symptoms. By educating employees about each of these constructs and empowering them to recognise the associated symptoms they can recognise possible warning signs in themselves and others.

It is highly recommended that interventions and employee assistance programmes be implemented to counter the effect of depression and to improve work engagement levels, lower burnout levels and lower the occurrence of stress-related ill health symptoms. Managers must also develop a better understanding of the time it takes for treatment to have an effect, as neither medication nor therapy will produce instant results. It is recommended that an extensive policy should be drafted to provide clear guidelines for both management and employees concerning treatment.

A multidisciplinary approach, coordinated by the organisation's industrial psychologist and/or human resource practitioner, is strongly advised.

3.3.2. Recommendations for future research

In order to eliminate these limitations in future research a number of recommendations are made below. Firstly, it is recommended that longitudinal designs are used in future research. These designs are used to validate the hypothesised causalities of the relationships and to examine whether the reported relationships hold true over time. Research should also be conducted to evaluate the effectiveness of interventions to promote well-being, including the management of depression.

It is also recommended that other instruments should be used to measure all the constructs and that future studies should not depend solely on self-report measures. By using a

diagnostic instrument in future research, the direct measurement of depression will be possible and self-report measures, that were used in this study, will no longer be necessary. This will result in richer and more reliable data.

Lastly, a broader definition, that will include all the different types of depression, should be used. This will result in information about how work engagement levels, burnout levels and the occurrence of stress-related ill health symptoms differ between individuals suffering from different types of depression.

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