

Substance consumption and workplace absenteeism: the moderating role of job satisfaction

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DECLARATION

I, Diana van Jaarsveld, hereby declare that the dissertation titled “SUBSTANCE CONSUMPTION AND WORKPLACE ABSENTEEISM: THE MODERATING ROLE OF JOB SATISFACTION” is my own work and that all the sources I have used or quoted have been indicated and acknowledged by means of complete references.

D van Jaarsveld

November 2017

DECLARATION OF LANGUAGE EDITOR

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24 September 2017

To whom it may concern

This is to confirm that I, the undersigned, have language edited the dissertation of

JA van Jaarsveld

for the degree

Magister Commercii in Labour Relations Management

entitled:

Substance consumption and workplace absenteeism: the moderating role of job satisfaction

The responsibility of implementing the recommended language changes rests with the author of the dissertation.

Yours truly,



Linda Scott

REMARKS

The reader is reminded of the following:

The reference and editorial style of this dissertation is according to the Publication Manual (6th edition) of the American Psychological (APA). This practice is in line with the policy of the programme in Labour Relations Management at the North-West University.

The dissertation is submitted in the form of two research articles. The two articles that comprise this research have been/will be submitted to the following peer-reviewed conference and journal for publication:

Article 1: (accepted for conference presentation and article publication by the 11th International Business Conference (IBC). See Appendix 1).

Article 2: (currently under review)

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SUMMARY

Title: Substance consumption and workplace absenteeism: the moderating role of job satisfaction

Keywords: alcohol, smoking, management, employee, absence, substance, individual variables, job satisfaction, absenteeism, substance use

Substance consumption and absenteeism problems are becoming a growing concern in many South African businesses. This is also a major concern for this power utility in Mpumalanga. Limited research investigates workplace absenteeism that results from substance use. Past research established that there is some form of relationship between substance use and absenteeism, but did not examine the influence of job satisfaction on this relationship. Limited research exist in South African organisation on job satisfaction-absenteeism relationship. Literature studies clearly indicate that an inverse relationship exists between employee job satisfaction and absenteeism.

The general objective of this research was to determine the relationship between the levels of substance consumption, job satisfaction and absenteeism, and to determine if job satisfaction levels predict absenteeism and the substance consumption of the employees in a power utility in Mpumalanga.

The research consisted of two separate studies, reported in article format. In article 1, it was investigated whether a relationship exists between employee absenteeism and substance use levels. This relationship was confirmed. In addition to this, the role of individual variables on absenteeism and substance use were investigated, and findings indicated that there are indeed some individual variables at the power utility in question that have an influence en absenteeism and substance use behaviour.

Furthermore, article 2 of this research study focuses firstly on the relationship between job satisfaction, absenteeism and substance consumption at a power utility in Mpumalanga in order to address the shortcomings in this field. The study focuses on the moderating role of job satisfaction on workplace absenteeism and substance use amongst the employees at a power utility in Mpumalanga.

This research study investigates the relationship between substance use and absenteeism, as well as the effect of substance use levels on employee absenteeism. In addition to this, the study scrutinises the extent to which job satisfaction predicts absenteeism and substance use levels and

investigates the moderating effect of job satisfaction on absenteeism and substance use levels amongst the employees.

The aim of this research study is to determine the influence that substance use has on absenteeism and to determine if job satisfaction can moderate an employee's attitude towards using substances or being absent from work. Moreover, absenteeism and substance abuse in South Africa are rising and it is essential to investigate these topics further. Employee job satisfaction, which is measured by the research questionnaire, is used to predict employees' behaviour towards absenteeism and substance use levels. The aim of the study is obtained by validating and contrasting the findings obtained from the research questionnaires that were completed.

An empirical research approach was used and data were gathered by means of a survey regarding employee absenteeism, job satisfaction and substance use levels. A total of 239 permanent employees, based at a power utility in Mpumalanga, participated in the research study. The employees who completed the questionnaire were employed in a permanent position at the power utility; they have been in the company's employ for more than three months and gave consent to participate willingly in the research study.

The main findings of this study revealed that younger, female employees are more prone to high levels of substance use and absenteeism; that the frequency rather than the quantity of substance consumption has an influence on employee absenteeism; and that job satisfaction truly plays a moderating role in the relationship between substance consumption levels of employee absenteeism.

The findings of this study can be implemented to assist managers and supervisors to understand the relationship between substance consumption and absenteeism and how job satisfaction influences this relationship in order to properly restrict unnecessary absenteeism and promote job satisfaction among employees.

International findings, such as the finding that younger employees consume higher levels of substances than older employees, were confirmed. A shortage in research was determined regarding the substance use levels of managers and the influence of family status on absenteeism and substance use levels. By adding scientific research to the lacking literature, this research contributed to the field of study.

Recommendations for future research were made.

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CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT

The purpose of this dissertation was to determine the relationship between the levels of substance consumption, job satisfaction and absenteeism and to determine if job satisfaction levels predict absenteeism and the substance consumption of the employees in a power utility in Mpumalanga. In this chapter, the problem statement and the overview of previous research findings regarding substance use, job satisfaction and absenteeism of employees were discussed. Furthermore, the research questions and research objectives were given and were followed by a discussion of the research methodology. At the end of the chapter, the layout of the chapters and a summary of the chapter were provided.

1.1 Problem statement

Employee absence management is an enormous issue, which influences management theories on topics such as labour relations management, motivation, job satisfaction, organisational behaviour, employee engagement, communication costs, measurement and recording processes (Egan, 2011). Smook, Ubbink, Ryke, and Strydom (2014) mention that above-average absenteeism from work, injuries, poor-quality performance and substandard levels of productivity of employees with substance consumption problems are also actual cost to the company. Comprehensive data on absenteeism that relates to substance abuse absenteeism are not available in South Africa. However, employee absenteeism in South African companies amounts to a loss of approximately R12 billion per year (Botes, 2013) and \$84 billion per year in the United States (Forbes, 2013). This loss is felt especially in small to medium enterprises due to the essential role that each of their employees plays in their ability to render a service or produce a product.

Different researchers explain that the majority of employers in South Africa do not monitor attendance closely or take action against the employees who abuse sick leave (Botes, 2013; Bruniquel & Associates, 2014; Yende, 2005). Even on an international level, employers have a limited capacity to effectively track and monitor absenteeism. Almost one out of every ten employees are absent at the time when they should be at work (Circadian, 2005).

Substance consumption and absenteeism problems are becoming a growing concern in many South African businesses, because they have an effect on productivity, employee morale and the

company's revenue (Botes, 2013). This is also a major concern for this power utility in Mpumalanga. According to Chauke (2007), substance abuse is one of the key causes of absenteeism. When individuals resort to various substances (including alcohol) to relieve stress, marital and other personal problems, it results in an increase in unnecessary sick leave requests.

Sick leave absenteeism abuse is a long-term problem in the power utility. In an attempt to address this problem, the power utility established the Human Resources Sustainability Index (HRSI). This concept was introduced in 2000 to ensure the long-term sustainability of the power utility's resources and to provide a simplified display to indicate the performance of the sustainability factors. It provides a high-level view of each key factor with built-in alarms to indicate the failure of any of these components. The key components measured by the HRSI are staff resignations, sickness absenteeism frequency rate (SAFR), leadership effectiveness, employee engagement, training days, turnover of core staff, average related experience of core staff, critical skills pipeline, staff retention, days taken to fill a vacancy, gross sickness absenteeism rate (GSAR), occupational health prevention strategies and HIV/AIDS response strategies.

SAFR refers to the number of sick leave requests per employee that was processed in the past 12 months. The power utility allows an employee to request two (average of 1.98) incidences of sick leave, regardless of the number of days required for each incident. GSAR, on the other hand, gauges the number of sick days as a percentage of the total number of working days in a period of 12 months. In other words, it indicates the percentage of workdays that the average employee is absent due to illness. An average of 2.50 percent is the permitted standard in the organisation.

Despite the power utility's strategy, the statistics for SAFR and GSAR obtained by the business unit in Mpumalanga, as illustrated in Figure 1, indicate that SAFR has exceeded the alarm of 1.98 for the past three years and reached a disturbingly high rate of 2.63 in 2012. The GSAR surpassed the alarm of 2.50 in 2011, but dropped to an acceptable 2.22 in 2012. The GSAR has been on a steady increase since 2012 and reached the alarm again in 2014. In 2015 the GSAR almost more than doubled and is still on the increase. When these statistics were gathered it became apparent that there was very little focus on sickness absence during 2012 and 2013, more intense focus was only established in January 2014 when the sickness absence trends and disciplinary cases due to substance consumption were reported every month. The records indicated that there were seven disciplinary cases at the power utility due to substance consumption and addiction in 2014, ten cases in 2015 and eight cases in 2016.

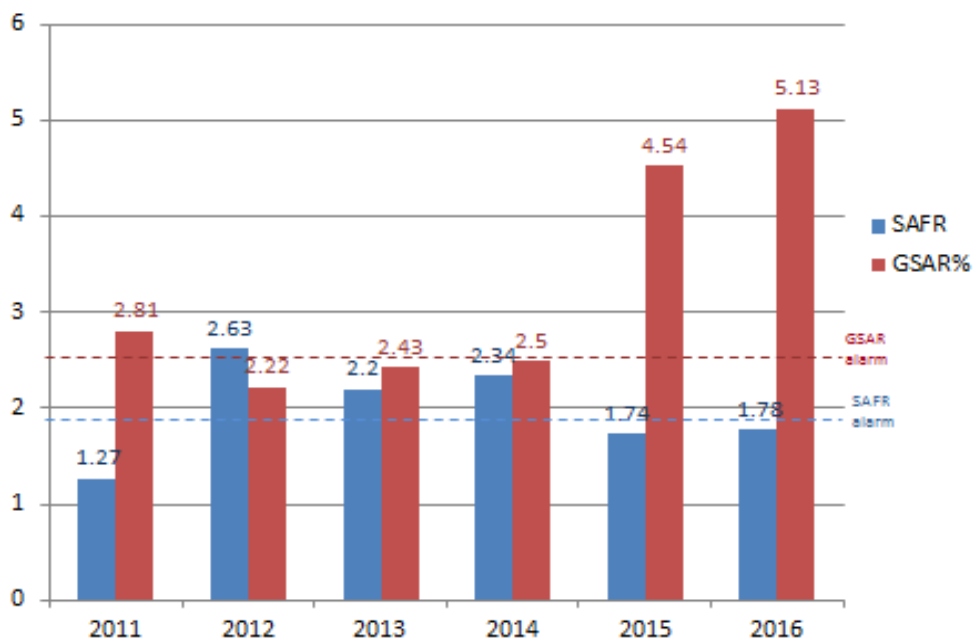


Figure 1 Sickness absence statistics of a power utility in Mpumalanga

1.1.1 Absenteeism, sick leave use and job satisfaction

Unscheduled absenteeism is associated with a decrease in employee productivity and the ability to meet targets, especially in a labour-intensive company such as the power utility. Absenteeism can be defined as the failure of an employee to report for duty or scheduled work and the inability to remain at work, regardless of the reason (Cascio, 2003; Robbins, Judge, Odendaal, & Roodt, 2016). Milkovich and Boudreau (1994) add the frequency and/or duration of work time that is lost when employees fail to come to work to the definition of absenteeism. These concepts are essential in the fundamentals of calculating sick leave usage. Essentially, absenteeism is viewed as an unplanned, disruptive incident that occurs when an employee does not attend scheduled work (Huczynski & Fitzpatrick, 1989; Van der Merwe & Miller, 1988).

There are a number of factors that influence absenteeism, which range from family responsibilities to satisfaction at work. According to the literature reviewed, the assumption is that low job satisfaction leads to high absenteeism. Although there is not a single solution that will suit all organisations, it is evident that management continuously is looking for new ways to reduce absenteeism in the organisation (Josias, 2005).

1.1.2 Substance consumption

Gilson (2007) emphasises that excessive users of sick leave are frequently also excessive in their level of substance consumption. International studies conducted in the last 20 years on the

prevalence of alcohol use and accidents in the workplace found that 15 percent to 30 percent of fatal accidents in the workplace occurred due to drug and other substance use; 20 percent to 25 percent of work accidents involved people who are under the influence of a substance; employees who use alcohol are implicated in two to four times more accidents than other employees; and employees who use alcohol are absent from work two to three times more frequently than other employees (Valencia & Gomez, 2005).

Deloitte (2010) explains that the view of the South African courts is that it is the responsibility of the management team to prevent alcohol and substance use at the workplace. Management must also ensure that employees are not under the influence of any drugs or harmful substances when they start their daily duties. South African studies have also indicated that the average percentage of excessive alcohol use amongst employees is between 40 percent and 70 percent (Valencia & Gomez, 2005).

A large amount of research that was conducted on absenteeism and sick leave use in the health and educational sectors is available, but not as much on the organisational sector. Van der Westhuizen (2006) explored work-related attitudes as predictors of employee absenteeism and found that absenteeism leads to morale problems within groups, dissatisfied customers, increased tension between managers and employees and conflict between regular attending employees and the absent employees. These implications can also lead to a decrease in the standards of performance and a high absenteeism rate to become an accepted norm in the organisation.

Sickness absenteeism also has an adverse effect on the organisation in terms of production loss, increased health care costs and a reduction in employee morale. In addition to these effects, it also has an undesirable effect on the employee's colleagues, because they now have to take up the additional work when their colleague is not at work. This situation can easily lead to a relationship conflict, which involves disagreements on personal and social issues and has a negative result on productivity and teamwork, decision-making quality, commitment and acceptance (Slavit, Reagin, & Finch, 2009; Thompson, 2004; Van der Westhuizen, 2006).

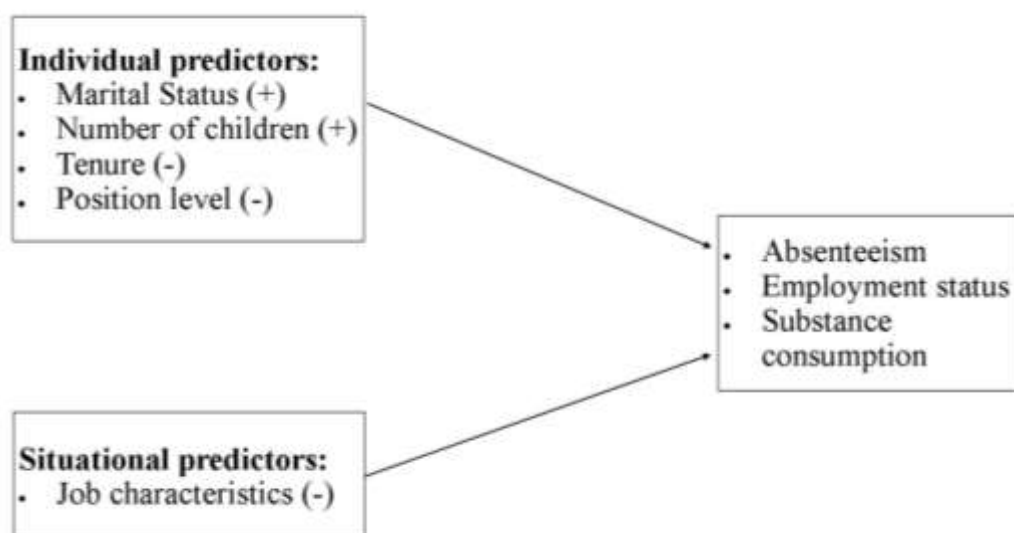
The high number of sickness absenteeism has long concerned organisations due to the influence it has on the organisation's competitive edge. In order to curb this problem, organisations must regulate the elements that are leading to the increase of sick leave abuse (Josias, 2005). In their study, Roelen, Koopmans, Notenbomer, and Groothoff (2008) confirmed that the employees' level of job satisfaction is a significant indicator of their sick leave usage in organisations. They

added that it would be useful for organisations to assess the job satisfaction levels of employee who have high numbers of sick leave usage.

It is clear from the above that not just excessive sick leave use, but also substance consumption problems are becoming a growing concern for businesses in South Africa (Botes, 2013). Substance abuse is one of the key causes of absenteeism. When individuals resort to various substances (including alcohol) to relieve stress, marital and other personal problems, it results in an increase in unnecessary sick leave requests (Chauke, 2007).

The studies of Frone and Windle (1997), and Saari and Judge (2004) reveal that there is indeed a correlation between the levels of job satisfaction and levels of substance consumption. They found that individuals who experience decreased job satisfaction are more likely to withdraw, arrive late at work, take unnecessary sick leave and abuse drugs and other substances.

This research study and outcomes was based on the combined theoretical model of Goldberg and Waldman (2000), and Lee and Ross (2011), as illustrated in Figure 2. This model addresses the direct individual (tenure, age and position level) and situational predictors (job characteristics such as skills variety and autonomy) on absenteeism, employment status (not relevant) and substance consumption. For the purpose of this study, employment status will not be included, because only permanent employees are included in the participants. In addition, the researcher focused mainly on the individual predictors of the model.



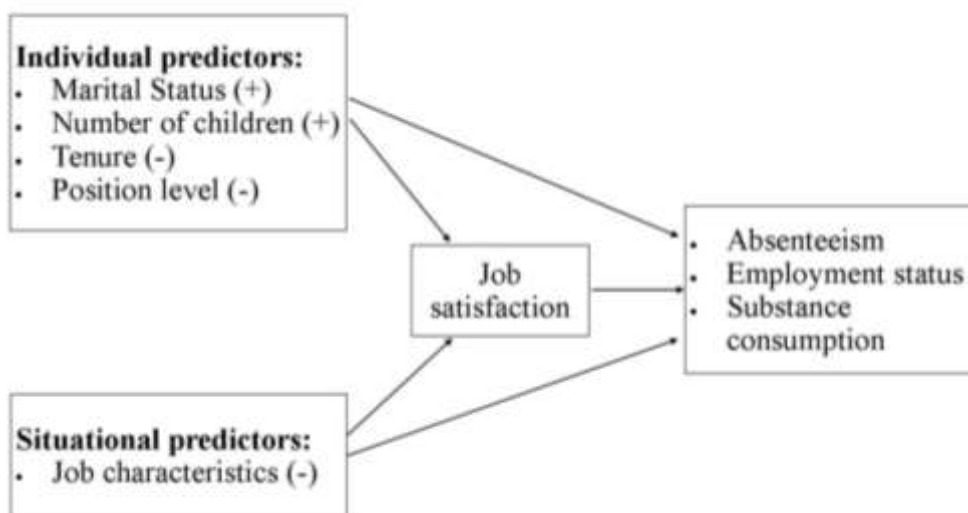
Adapted model (Goldberg & Waldman, 2000; Lee & Ross, 2011).

Figure 2 Direct effect model of absenteeism and substance consumption

This model indicates that the individual predictors: marital status and number of children have a positive relationship on absenteeism and substance consumption. In contrast hereto, tenure and position level will have a negative effect on these factors. The situational predictor, job characteristic, will decrease absenteeism and substance consumption. Job characteristics include, but are not limited to skill variety and autonomy (Goldberg & Waldman, 2000; Lee & Ross, 2011).

Lee and Ross (2011) investigated the connotation between absenteeism and substance consumption among employees. Their study proved that: employees who use more substances are more likely to use more sick leave; a substance abuse policy may increase absenteeism, but reduce job turnover; and drug testing may reduce absenteeism. They found that there is a positive correlation between substance consumption and sick leave use. Substance abuse policies and testing have a moderating influence on sick leave use and substance consumption (Lee & Ross, 2011).

Goldberg and Waldman (2000) further extended their model to include the moderating role that job satisfaction plays in the individual and situational predictors, absenteeism and substance consumption. The adapted version of this model is illustrated in Figure 3.



Adapted model (Goldberg & Waldman, 2000; Lee & Ross, 2011).

Figure 3 Moderated model of absenteeism and substance consumption

The moderated model addresses: the influence of individual predictors and situational predictors on job satisfaction; the influence of these predictors on absenteeism and substance consumption;

as well as the influence of job satisfaction on absenteeism and substance consumption (Goldberg & Waldman, 2000; Lee & Ross, 2011).

As mentioned above, little information and research on the relationship between sickness absence rates and substance consumption is available currently. Due to the shortage of research in the organisational sector and, more specifically, the electrical industry sector, the rise of absenteeism and substance consumption in South Africa further investigation into these topics is essential. This research study focused on an organisation in the electrical industry sector, the correlation between substance consumption and absenteeism, as well as the relationship between job satisfaction, absenteeism and substance consumption at a power utility in Mpumalanga in order to address the shortcomings in this field.

Absenteeism in the workplace is without doubt one of the most difficult aspects of employee discipline to control because it is not monitored properly. People tend to forget about the production loss and additional workload on the remaining employees that result because of employees being absent from work (Barrow, 2013). Such additional workload leads to poor morale among the employees who have to perform the extra work and stand in for their absent colleagues (Forbes, 2013).

The problem, therefore, was formulated as: What is the relationship between substance consumption and absenteeism and does job satisfaction have a moderating effect on absenteeism and substance consumption of the employees in the power utility?

Based on the abovementioned description of the research problem the following research questions were formulated:

- What relationship exists between the levels of substance consumption, job satisfaction and absenteeism amongst the employees at the power utility in Mpumalanga?
- How well does the level of job satisfaction predict absenteeism at the power utility?
- How well does the level of job satisfaction predict substance consumption levels of the employees at the power utility?

To answer the above research questions, the following research objectives were set.

1.2 Research objectives

The research objectives were divided into general and specific objectives.

1.2.1 General objective

The general objective of this research was to determine the relationship between the levels of substance consumption, job satisfaction and absenteeism and to determine if job satisfaction levels predict absenteeism and the substance consumption of the employees in the power utility in Mpumalanga.

1.2.2 Specific objective

The specific objectives of this research were:

- To conceptualise substance consumption, job satisfaction and absenteeism of employees and the relationship between these construct from the literature (Article 1).
- To determine what relationship exists between the levels of substance consumption and absenteeism of employees and the demographical information of the employees at the power utility in Mpumalanga (Article 1).
- To determine if job satisfaction results in lower absenteeism and substance consumption levels (Article 1).
- To ascertain how well job satisfaction levels predict absenteeism of employees at the power utility (Article 2).
- To ascertain how well job satisfaction levels predict substance consumption levels of the employees at the power utility (Article 2).

1.3 Research design

1.3.1 Research approach

This study followed a quantitative approach. The quantitative study focused on a large representative sample in which the data was collected. This data was then analysed by means of statistics (Struwig & Stead, 2003). A cross-sectional approach was followed, as the data was only collected once and did not stretch over a period of time (De Vos, Strydom, Fouché, & Delport, 2005). The cross-sectional survey enabled the researcher to compare a large number of cases and to determine the cause-and-effect relationship between variables (Druckman, 2005; Struwig & Stead, 2003). This study was descriptive and utilised a survey to gather data regarding job satisfaction, absenteeism and the substance consumption levels of employees at the power utility in Mpumalanga, its antecedents and outcomes. Latent variable modelling was implemented to investigate model fit and indirect and interaction effects.

1.3.2 Research method

This research, pertaining to the specific objectives, consisted of two phases, namely a literature review and an empirical study.

Literature review

In phase 1 a complete literature review regarding the characteristics of absenteeism, job satisfaction and substance consumption was done. Resources such as books, journal articles, Internet search engines, dissertations and theses were used to gather the required information. Du Plessis (2004) explains that the literature study consist of three typical phases, these phases are as follows:

- Gathering of useful references;
- Research of these references; and
- Studying of these references.

Empirical study

Phase 2 consisted of the following steps in the form of descriptive research:

- The distribution of questionnaires to gather data from employees
- The interpretation and analysis of the data gathered from the completed questionnaires
- The interpretation of the statistical analysis of the research data.

1.3.3 Participants

The business unit where the study was conducted consisted of a total of 548 permanent employees, at the end of May 2016. These employees were approached to participate in this research project. In this study, the researcher attained the required information, by distributing questionnaires to 548 permanent employees at the power utility in Mpumalanga.

Convenience sampling that was guided by certain criteria was applied to ensure that the sample was representative of the employees at the power utility (Struwig & Stead, 2003). Employees who were employed in a permanent position at the power utility and gave consent to willingly participate in the research study were included, whereas employees who were employed in the past three months were excluded, due to an insufficient leave record.

The power utility has moved from the Patterson grading system to the TASK (Tuned Assessment of Skills and Knowledge) grading system. Classification of employees was as follows: managerial employees appointed on task grades 14 to 18; skilled employees were classified as all employees on task grades 9 to 13; and semi-skilled employees were those appointed on task grades 4 to 8. The quantitative information gathered from the sample was utilised for the final analysis.

Table 1

Classification of employees in the grading system

Patterson grades	Patterson bands	TASK grades	Decision level	Task skill level
F4	FU	26	Board level (policy making decisions)	Top management
F3		25		
F2	FL	24		
F1		23		
E4	EU	22	Heads of major functions (programming decisions)	Senior management
E3		21		
E2	EL	20		
E1		19		
D5	DU	18	Professionally qualified and experienced specialists (interpretive decisions)	Tactical level: • Middle management • High level advisory
D4		17		
D3		16		
D2	DL	15		
D1		14		
C5	CU	13	Academically qualified employees (routine or process decisions)	Specialised: • Skilled • Technical • Specialist • Senior supervisory
C4		12		
C3		11		
C2	CL	10		
C1		9		
B5	BU	8	Discretionary and operative	Discretionary:
B4		7		

Patterson grades	Patterson bands	TASK grades	Decision level	Task skill level
B3	BL	6	decisions	<ul style="list-style-type: none"> • Semi-skilled • General – clerical • Junior supervisory
B2		5		
B1		4		
A3	A	3	Defined decisions	Basic skilled
A2		2		
A1		1		

Adapted from Van Rooyen (2005)

1.3.4 Measuring instruments

The research questionnaire consisted of standardised forms and a biographical survey.

To measure job satisfaction and absenteeism, this study adopted Goldberg and Waldman’s (2000) survey. The items on this survey were divided into subscales, namely the three-item job satisfaction predictors and two-item absenteeism scale. “I find real enjoyment in my job” and “I feel well satisfied with my job” are two of the three items that measure job satisfaction. The two absenteeism items were “Please indicate the number of times you missed scheduled work over the past six months (counting absence of more than one consecutive day as one time)” and “Please indicate the total number of days you were absent in the past six months”. The situational predictors and job satisfaction items were scored on a Likert-type scale varying from one (strongly disagree) to five (strongly agree). The internal reliabilities were as follows: situational variables 0.74 – 0.76 and 0.86 for job satisfaction (Goldberg & Waldman, 2000).

To gather additional information on absenteeism the study employed the survey used by Lee and Ross (2011). The work absence item, “During the past 30 days, how many days off work did you miss because you did not want to be there?” was an open-ended question where the participant could record any number of days that he or she was off work. In his study, Reid (2008) determines the alpha coefficients to be a low 0.63, due to the limited number of variables available to analyse.

To measure substance consumption, the questionnaire applied was developed by Surujlal, Nolen, and Ubane (2012), and validated and adapted by Surujlal and Keyser (2014) to align with the industrial sector. This questionnaire consisted of four sections. Section A has eight items that focused on substance consumption patterns, which were derived from the amount and frequency

of alcohol consumption and substance use. Each item was rated on a Likert-type scale of one (everyday) to five (once a year or less). Section B had 18 items that focused on drinking consequences, each item was rated from one (at least once in the past two months and at least one additional time during the past year) to five (has not happened to me). The two items in Section C were rated the same as Section A, but explored how often a person smoked, as well as the number of cigarettes a person smokes per occasion. The last section in this questionnaire shed some light on the general knowledge of the participant by means of 35 items that were rated as true or false. In their study, Surujlal and Keyser (2014) determine an overall internal consistency for sections B and C of $\alpha=0.74$, which met the benchmark of 0.70.

Information regarding the participant's age, gender, race, level of education, marital status, number of children, position level, tenure and department was gathered by means of a biographical questionnaire.

1.3.5 Research procedure

The questionnaires were constructed and administered in English to the employees at the power utility in Mpumalanga who agreed to take part in this study. Permission to conduct this study was obtained from the human resources manager and power station manager at the business unit, where the participants are employed currently. The questionnaires were accompanied by a cover letter that explained the purpose of the study and the confidentiality of the information obtained from the study. The participants completed the questionnaire on paper and returned the completed questionnaires to the researcher, who prepared them for analysis with the IBM Statistical Package for the Social Sciences (IBM SPSS 24, 2017) software programme.

1.3.6 Statistical analysis

Descriptive statistics such as mean, median, standard deviation, residuals, skewness and kurtosis were used to describe and profile the data. Cronbach alpha coefficients and exploratory factor analysis were used to report the construct reliability and reliability of the measuring instruments. Values would range from zero to one, with higher values indicating a greater reliability (Struwig & Stead, 2003). The IBM SPSS 24 (2017) statistical program revealed the relationship between absenteeism and the levels of substance consumption by means of linear modelling. The influence of the levels of job satisfaction on the aforementioned relationship was verified through interactor or moderating effects. Multiple regression analysis and simple slopes were implemented to predict the relationship between the variables. Regression coefficients were

calculated to quantify the relationship between the predictor (job satisfaction) and the outcome (level of absenteeism or level of substance consumption). The model sum of squares was used to establish the model fit to the data obtained. Cross-validating was determined and tested in order to generalise the model (Field, 2013).

1.3.7 Ethical considerations

Approval was obtained from the Basic and Social Sciences Research Ethics Committee (BaSSREC) and ethics number NWU-HS-2016-0088 was assigned to this research study (see Annexure 2).

Research conducted in a fair and ethical manner was essential for the success of this research project. The researcher explained the purpose and importance of the study and highlighted that participation in the research study was voluntary. The objectives of the study were discussed with the participants. Written consent was obtained from the organisation prior to the commencement of the study. All participants were briefed on the research project and were given the opportunity to ask questions or raise concerns before considering participating in the study. Participants were required to sign a consent form where it was stated clearly that the information obtained from the results of the questionnaires would be treated with a high level of confidentiality and that the feedback from the results obtained would only be used for research purposes. Participants were also informed that feedback would be available to participants at the end of the study.

1.4 Chapter layout

The chapters in this dissertation are presented as follows:

Chapter 1: Introduction and problem statement

Chapter 2: Article 1: The influence of substance consumption on absenteeism amongst the employees at the power utility in Mpumalanga

Chapter 3: Article 2: The moderating role of job satisfaction on absenteeism and substance consumption amongst the employees at the power utility in Mpumalanga

Chapter 4: Conclusions, limitations and recommendations.

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CHAPTER 2

THE INFLUENCE OF SUBSTANCE USE ON ABSENTEEISM AMONGST THE EMPLOYEES AT THE POWER UTILITY IN MPUMALANGA

Abstract

Absenteeism, related to substance use can be a substantial burden on businesses, yet so little research investigates the link between these constructs in the workplace. The relationship between substance use, job satisfaction and absenteeism has been studied by scrutinising absenteeism and substance use levels and discussing them regarding its definition, demographic variables, antecedents and consequences. This article studied the relationship substance use frequency and quantity has on absenteeism levels (or misuse of sick leave) in a power utility. Data have been gathered from a survey regarding the absenteeism and substance use levels of employees at a power utility in Mpumalanga. A total of 239 permanent employees based at a power utility in Mpumalanga participated in the research study. The employees who completed the questionnaire were employed in a permanent position at the power utility; they have been in the company's employ for more than three months and participated willingly in the research study. The main findings of this study revealed that younger, female employees and line managers are more prone to high levels of substance use and absenteeism. Female employees' quantity of substance use is statistically significantly more than that of male employees. Employees between the age of 36-45 years and 56 years and older use higher quantities of substances than younger employees less than 35 years old do. There were no significant differences between different age groups and the frequency of substance use.

Key words: alcohol; smoking; individual variables; employee; absence; substance

Introduction

Compared to the rest of the world, South Africa can be classified as one of the countries with the highest rate of alcohol use (South African Consumption, 2016). The use of alcohol and other substances in the working environment is an indication of critical social issues and urges the investigation of the relationship between individual variables and substance consumption (Belhassen & Shani, 2012). Substance misuse behaviour by employees could worsen employee health, job performance and employee competitiveness, as well as have an adverse influence on safety in the workplace and also influence employees' absenteeism (Frone, 2004; Roche, Pidd, Berry, & Harrison, 2008). Setati (2014) indicates that poor job satisfaction leads to several health problems including substance misuse. Job satisfaction may be one of the factors that influence an employee to use alcohol and other substances (Mogorosi, 2009). This finding is supported by the study of Calitz, Roux, and Strydom (2014) who found that poor job satisfaction leads to alcoholism and higher levels of substance use.

The studies of McFarlin and Fals-Steward (2002) found a significant relationship between substance use and workplace absenteeism. They report that employees were two times more likely to be absent from work on the day after using alcohol and other substances. Furthermore, Bacharach, Bamberger, and Biron (2010) state that it is usually anticipated that high levels of substance use have a significant effect on employee absenteeism, but they confirm that this relationship is understood inadequately. From their research, it was clear that the influence of substance use on absenteeism is more complex than individual and workplace factors that have an effect on absenteeism. These prior findings were done internationally and the applicability of these findings is still to be proven in South Africa.

Previous research of Frone and Brown (2010) regarding the connection of substance-use norms and the use levels of employees focused on biographical information such as gender, race, age, the level of education, income, occupation, hours worked per week, tenure, weekend work and seasonal work. Frone (2003) emphasises the lack of past research to investigate individual variables in relation to employee substance use comprehensively. He notes the research on what type of employees are more prone to using alcohol and other substances and the consequences of such use are more important than the overall tendency to use substances while at work. Schou, Storvoll, and Moan (2014) establish that there are considerable variances in the substance use levels between male and female employees and that these variances are seldom focused on during research.

Smook, Ubbink, Ryke, and Strydom (2014) stipulate that although national data on workplace substance abuse is still unavailable, the literature indicates an increase in substance use among employed individuals. Furthermore, their international studies clearly indicate the relationship between substance use levels and absenteeism, but national studies have not yet documented and investigated the definite relationship between substance use levels and absenteeism to the same extent. National studies, however, investigated these aspects of absenteeism and substance use independently.

Robbins, Judge, Odendaal, and Roodt (2016) explain that absenteeism is costing organisations millions of rand each year and as mentioned by Botes (2013) and Skosana (2014), they estimate that absenteeism costs increased from R12 billion per annum in 2013 (Botes, 2013) to R16 billion per annum in 2017 (Belseck, 2017; Skosana, 2014). On an international level, absenteeism amounts to about \$84 billion per annum in the United States (Investopedia, 2013) and £29 billion in the United Kingdom (Caine, 2015).

Absenteeism leads to a decrease in productivity due to fewer employees being available for the work day, financial and additional administrative costs due to overtime and having to recruit or train new employees to do the work (Caine, 2015; Chauke, 2007). There are tremendous economic costs associated with absenteeism, including indirect costs such as reduced efficiency and job motivation, increased supervisory load and reduced employee morale among employees who need to cover for those who are absent (Caine, 2015; Nguyen, Groth, & Johnson, 2013).

Ally (2009) emphasises that research on the topic of substance use and absenteeism in the South African workplace context is insufficient. Substance use in South Africa has been on a continual increase over the past couple of years, causing a rise in criminal activity. In most cases, the drug usage in South Africa is already twice the world norm. According Van Heerden et al. (2009) the misuse of alcohol and other substances is a national problem of enormous magnitude. South African Statistics (2013) announce that substance abuse is costing South Africa an estimated R20 billion per year. The South African Police Service (SAPS) figures, as noted in South African Statistics (2013), indicate that 60 percent of national crimes are related to high levels of substance use.

Substance use and absenteeism is a continuous problem at the power utility in Mpumalanga. The disciplinary cases related to substance use at the power utility have escalated from seven in 2014 to ten in 2015 and eight cases were reported in 2016. Regarding absenteeism, the sickness absenteeism frequency rate (SAFR) target was exceeded from 2011 until 2015 and in 2016 an

average of 1.78 was reported, which is just below the 1.98 target. The gross sickness absenteeism rate (GSAR) has been exceeded and is on a steady increase since 2012, reaching alarmingly high numbers of 4.54 in 2015 and 5.13 in 2016.

The influence of absenteeism on the power utility is enormous, taking into account of the costs associated with it. The study also provides insight for better understanding of absenteeism, therefore, can be valuable for managers at the power utility and policymakers. For this reason, it is important to research better ways of handling this problem and the consequences of absenteeism intensively by making sickness absence one of the top priorities of the power utility group in South Africa.

Absenteeism is not just a problem in the power utility in Mpumalanga, but also a concern for organisations worldwide due to its effect on profit margins. From peer-reviewed publications, it is clear that over the years extensive studies were conducted by a variety of researchers regarding substance use of employees for the employer and individual behavioural outcomes (Roche, Pidd, Berry, & Harrison, 2008). The relationship between substance use and absenteeism is a complex one, because of two main issues. The first issue is that, up to now, researchers focused more on the quantity of substances used as opposed to the way in which such substances are consumed. In addition to this, the second issue regarding employees' substance-absenteeism relationship is that the employee may feel obligated to work in order to avoid putting unnecessary strain on their fellow employees. They would rather be at work and perform poorly than be identified as a sick leave abuser or problem employee (Bacharach et al., 2010).

It, therefore, is critical to understand workplace substance use as an important issue because it can encourage the continued or increased use of substances both during and after working hours. It is essential to understand how workplace substance use has an influence on relationships, safety and productivity. Such continued use during and after working hours reinforces the amount and frequency of employee substance use (Bacharach, Bamberger, & Sonnenstuhl, 2002; Frone, 2012). Recent research by Harker-Burnhams, Dada, Linda, Myers, and Parry (2013) emphasises that limited research exists on the use of alcohol and other drugs in the workplace in South Africa. Moreover, Belhassen and Shani (2012) recommend that there is a need for more research that investigates the relationship between substance consumption and individual variables. It is clear from the above that absenteeism related to substance use can be a substantial burden on businesses, yet so little research investigates the link between these constructs in the workplace.

As explained above, previous research focuses on substance use, but not on the quantity and frequency of substance use, job satisfaction and absenteeism. Therefore, this article focuses on the gap by investigating the relationship between job satisfaction, substance use levels such as quantity and frequency, absenteeism and individual variables at a power utility in Mpumalanga. Furthermore, this study will possibly add more insight into the depth and workings of this relationship between individual job satisfaction, substance use (frequency of use, the quantity of use), absenteeism and individual variables.

Literature study

Employee substance use and individual variables

Substance abuse can be defined as “a maladaptive pattern of substance use manifested by recurrent and significant adverse consequences related to the repeated use of substance” (Sacks & Ries, 2005, p. 22). In other words, substance abuse is the use of a substance in amounts or methods that are harmful to the individual or employee or those around them. The repeated use of a psychoactive substance may result in failure to meet obligations at work, poor decision making, fatal accidents, legal problems relating to the substance or theft and it may also have negative effects on social relationships (Baron, 2001). From these definitions it is clear that substance use becomes a problem when it interferes with an employee’s productivity and ability to perform his/her duties. The use of substances occurs for a variety of reasons, such as forgetting problems at home, work or socially. Work-related factors that contribute to employee substance use on workplace premises include uncomfortable work settings, inadequate safety measures, lack of resources, poor supervision, poor employee relations, job insecurity, poor salary and lack of opportunities to develop and grow in the organisation. The effect of substance use at work could result in employee absenteeism, workplace injuries, or even damage to property and equipment (Mogorosi, 2009).

Geldenhuis (2015) establishes that 20 percent of employees use and are dependent on substances and often are late for work, absent on Mondays and/or use substances at the workplace. His study also reveals that substance abuse is a bigger problem than substance dependence. Substance use in the workplace leads to higher absenteeism rates and influences the employee’s relationship with his or her peers, due to that fact they are forced to perform the employee’s duties or work overtime to meet deadlines (Bacharach et al., 2010).

Therefore, it is essential for employers to devote enough time, drive and resources to the problem of substance abuse in the workplace due to the detrimental effects and legal implications to managing this issue effectively (Smook et al., 2014). Approximately 50 percent of safety accidents in the workplace happen because of employee substance use or misuse (Geldenhuys, 2015).

Substance use does not only have a negative effect on the organisation but also on the economy due to complications such as impaired work performance, accidents and absenteeism. It is certain that high levels of use also have an influence on health care systems and the overall health of employees. Just like alcohol, the cost of smoking contributes negatively to the work environment. Employees' smoking habits amount to approximately 80 million lost workdays and 145 million days of disability, which is considerably higher than the days lost by non-smoking employees (Mohasoa, 2010).

In their research, Slavitt, Reagin, and Finch (2009) establish that employees who use substances often fail to fulfil their responsibilities and commitments at work or home. These people tend to use substances in situations where it can be physically dangerous to themselves and the people around them, such as driving or operating machinery under the influence. The study of Belhassen and Shani (2012) verifies that individual variables such as gender, age, marital status, level of education and religion are connected to some form of substance consumption.

Frone (2012) explores substance use in relation to individual variables of employees and the organisation's workplace climate. During the 1970s, researchers started to focus on comparative studies on alcohol use of males and females. His research demonstrates that men are more likely to consume alcohol and other substances at the workplace and higher levels of substance-related norms are tolerated among male employees than among female employees. Overall, his study found that male employees are more prone to use substances at work than female employees are. His study was based on eight occupational demographic characteristics, namely the number of employees at the work location, job tenure, weekly work hours, shift work, seasonal work, union membership and weekend work.

The study of Edvardsen, Moan, Christophersen, and Gjerde (2015) about the use of alcohol and other substances by employees establishes that there is a tendency for male employees to consume higher levels of substances than their female counterparts do. This is supported by a South African study by Harker-Burnhams et al. (2013) that found males are more likely to experience alcohol-related problems and females demonstrating a higher percentage of drug-

related problems. In addition to these findings, Harker-Burnhams et al. (2013) establish that substance consumption is not distributed evenly across all workplaces and occupations; such classification is done by the industry classification benchmark. This means that some occupations and/or workplaces are at risk of higher levels of substance consumption.

Edvardsen et al. (2015) also determine that younger employees are more prone to excessive use of substances, to such an extent that it impairs the employees' abilities to perform their duties. These results are consistent with the findings of previous studies. Geldenhuys (2015) determines that an estimated 45 percent of the young people in South Africa experiment with substances and one-third of them develop addiction issues during adulthood.

The findings of Frone and Brown (2010) indicate that the younger employees in their study consumed more substances more frequently than older employees. In past research, there was insufficient focus on the reason why younger employees use more substances than older employees did (Frone, 2003). Roche et al. (2008) explain that it is not only the age of employees that plays a role in substance use levels but also gender and marital status. The majority of research, such as that of Frone and Brown (2010), focuses on family income as a variable that has an influence on substance use and not family status (e.g. single, married and divorced). Humensky (2010) found that higher socio-economic status is associated with higher levels of substance use, but could not link substance use with race.

In his study, Frone (2012) could not link an employee's race or tenure to increased levels of substance use. Ng and Feldman (2009) found that an employee's level of education is negatively related to workplace substance use. In contrast to this, Frone (2012) determines that the level of an employee's education is positively related to the ease of substance use during working hours. Patrick, Wightman, Schoeni, and Schulenberg (2012) determine that higher employee job levels are associated with higher levels of substance use and misuse. They also found that employees with higher incomes are inclined to frequently use substances, but less prone to smoking. Frone (2012) reports that professional employees indicated a lesser amount of exposure to a tolerant workplace substance-use culture than employees working shifts. He specifies that employees on management level and those who are working shifts reported higher levels of substance use and substance availability at their workplace.

In addition to the above findings, Frone (2012) found that the demographic variables unrelated to the level of substance use are number of an employee at the site, tenure, total amount working hours, seasonal employment, union membership and weekend work.

Studies that compare non-substance users to substance-using employees have proven that the substance-using employees are more likely to be involved in an accident at the workplace and file a claim for employees' compensation. In addition to this concern, they are more prone to change jobs often, be less productive when at work and be late for, or even absent from work (Ramchand, Pomeroy, & Arkes, 2009).

Job satisfaction and individual variables

Spector (1997, p. 2) defines job satisfaction as "the degree to which people like their jobs and the different aspects of their jobs." Job satisfaction occurs when a person is content or satisfied in his or her work environment; so, what causes a person to experience job satisfaction? According to the international research of Ogunleye, Odebiyi, and Olaoye (2013), four factors determine job satisfaction, namely equitable rewards, supportive working conditions, mentally challenging work and supportive colleagues.

In addition to this, Tsounis, Niakas, and Sarafis (2017) also determine that job satisfaction is influenced by aspects such as salary, work conditions, work load, development opportunities, interpersonal relationships, incentives, nature of the work and employee responsibility. They determine that job satisfaction is imperative for the successful functioning of an organisation and is one of the most significant predictors used by management.

In his study, Sanwar (2014) determines that females, older employees and married individuals experience higher job satisfaction levels than male, unmarried and younger employees. He also states that job satisfaction increases as an employee's tenure increases, but could not establish any relationship between job satisfaction and race among male employees. Amongst female employees, it is confirmed that White employees experience higher levels of job satisfaction than any other races. Josias (2005) establishes that employees who have been employed in an organisation for longer periods are employed on a higher job level and obtained higher qualifications are more likely to indicate higher levels of job satisfaction.

The study of Tsounis et al. (2017) determine that most employees are content with their job and do not indicate high levels of either job satisfaction or job dissatisfaction. They also found that job satisfaction is related closely to employee salaries and where they reside. On the other hand, Hofmans, De Gieter, and Pepermans (2013) establish that for some employees, job satisfaction is linked to financial benefits, but for the majority of employees' job satisfaction is rather associated with psychological rewards and recognition for their inputs. Ram (2013) explains that

job satisfaction is not influenced by salary, but establishes that high-income groups hold a negative connotation between the relationship between job satisfaction and salary. He also explains that mainly the job characteristics, such as the nature of the work and the working environment have an influence on job satisfaction.

Luthans (2011) found that increased levels of job satisfaction are related commonly to lower employee absenteeism. In addition to this, Gilson (2007) states that employees with high levels of substance use are commonly employees who are frequent users of leave and sick leave. Managers need help to address any substance-related absenteeism and sick leave, whether the substance is legal or illegal drug related. In addition to this, Macdonald and Roman (1994) state that substance use often is associated with job dissatisfaction, low job involvement and absenteeism.

Employee absenteeism and individual variables

Robbins et al. (2016, p. 18) define absenteeism as “the failure of an employee to report for work as scheduled, regardless of the reason” and Van der Westhuizen (2006, p. 39) defines absenteeism as “a day or days of missed work or the non-attendance of employees for work that was scheduled”. Sick leave abuse is one of many forms of absenteeism and can be described as the manipulation and misuse of such sick leave days. Sick leave is an event where an employee requests sick leave for a day or number of days due to his or her inability to perform his or her duties at work. The Basic Conditions of Employment Act (75 of 1997) (South Africa, 2002, p. 14) states in Section 22 (2) that “during every sick leave cycle, an employee is entitled to an amount of paid sick leave equal to the number of days the employee would normally work during a period of six weeks”. This act also states that a medical certificate for three or more days may be required as proof before any such sick leave days are paid.

In simple terms, absenteeism explains the behaviour of a person who avoids their duties and responsibilities. Employees who are absent from work influence the whole organisation negatively. When an employee earns money to perform a job, he or she is expected to fulfil his or her duty as such.

There are also other categories of absenteeism, namely sickness absence, authorised absence and unexcused absence. Sickness absence happens when an absence is requested, due to sickness. Authorised absences transpire when management gives the employee permission to be absent for any reason other than sickness. Unexcused absence arises when an employee is absent from

work without authorisation and did not inform the employer beforehand. Such behaviour usually leads to disciplinary action (Chauke, 2007).

Ericson (2001) explains that employees' life style choices (drinking, smoking and substances) influence their absenteeism and he further mentions that "the area of life choice is probably the hardest part of absenteeism management to address, as it blurs the lines between personal habits and the workplace" (p. 90).

Aspects that influence absenteeism can be categorised into individual/personal, job and organisational factors. The individual/personal factors of employee absenteeism have to do with demographic variables that forecast absenteeism behaviour. The subsequent studies assessed demographic variables such as gender (Roche et al., 2008), race (Avery, McKay, Wilson & Tonidandel, 2007), age (Farrel, 2005; Mandleni, 2011; Darr & Johns, 2008), status (Borda & Norman, 1997; Robbins, Judge, Millet, & Jones, 2014; Robbins, Millet, & Walters-Marsh, 2004), tenure (Hackett, 1990; Kass, Vodanovich, & Callender, 2001), education (Ng & Feldman, 2009), and job level (Josias, 2005; Roche et al., 2008).

Individual/personal variables are used widely in research of absenteeism and turnover (Goldberg & Waldman, 2000). As mentioned by Price (1995), demographic variables can help in the construction of casual models to address absence problems by management. Previously, research mostly focused on individual variables such as gender, age, job level, tenure, marital status and number of dependents.

Edvardsen et al. (2015) found that higher absenteeism is more frequent among male employees than among female employees. Hackett (1990) confirms a positive relationship between age and absenteeism levels. The study of Roche et al. (2008) confirms that female employees were more likely to indicate high absenteeism levels than those of male employees and younger employees are more likely to take a sick day than the older ones are. They also found that employees who were never married reported higher levels of absenteeism compared to married employees.

Josias (2005) establishes that employees who have been employed in an organisation for longer periods indicate lower levels of absenteeism. In his study, Noland (1945) determines that employees' years of education have an opposite effect on their absenteeism levels. Ng and Feldman (1990), who found that an employee's level of education is negatively related to absenteeism, support this finding. In support of these findings, Johansson, Böckerman, and Uutela (2008) also determine that employees who are better educated tend to indicate lower

levels of absenteeism than that of their peers. According to the study of Avery et al. (2007), there was no statistically significant difference between different races and absenteeism. Neither Roche et al. (2008) or Josias (2005) could determine a significant relationship between absenteeism and employee job level.

Organisational factors have more to do with the size of the organisation, departments in the organisation, design of shifts, type of supervision, overtime, nature of work performed and pay structures of the organisation. It is evident that other organisational factors such as management style and leave policies play a role in employee absenteeism (Robbins, Judge, Millet, & Jones, 2014; Robbins, Millet, & Waters-Marsh, 2004).

Hackett and Guion (1985) determine that job satisfaction levels have an impression on absenteeism levels. Their study indicated a need for reconceptualising absenteeism and employee perceptions of job satisfaction. Muchinsky (1977) scrutinised ways to measure and reduce absenteeism and examined the problems that result from high levels of absenteeism.

Past studies regarding absenteeism also address many additional issues. Waters and Roach (1973) explore employee absence in relation to withdrawal from the workplace. Ones, Viswesvaran, and Schmidt (2003) study the extent to which personality traits could influence absenteeism levels.

The relationship between substance use, absenteeism and job satisfaction

George and Jones (2002, p. 93) mention "...many researchers have studied the relationship between absenteeism and job satisfaction in an attempt to discover ways to reduce absenteeism." Steers, Porter, and Bigley (1996) emphasise that early work on job satisfaction research has the underlying notion that job dissatisfaction embodies the primary cause of absenteeism. McShane (1984) states that employees who are dissatisfied with various aspects of their jobs are more likely to be absent and found employees' job satisfaction to be more highly correlated to their frequency of absences than to number of work days lost.

Josias (2005) mentions that there is contradictory and inconsistent research regarding the influence of job satisfaction on absenteeism and that some research findings show no correlations between absenteeism and job satisfaction whereas others indicate a weak to moderate relationship between them. In her study at a power utility in the Western Cape, she found that there is a feeble inverted relationship between absenteeism (number and frequency of

sick leave) and the job satisfaction levels of the employees. Goldberg and Waldman (2000) found that job satisfaction is not related to employees' absenteeism

On the other hand, Theron (2014) verifies that the matter of job satisfaction is vital for both the employers and the employees in an organisation. His study also explored the positive and negative effects of job satisfaction in an organisation. The progressive properties include, but are not limited to, talent retention and improved productivity. The negative consequences of poor job satisfaction include higher absenteeism rates, the rise in grievances, increased substance use and more early retirements (Saari & Judge, 2004).

Job satisfaction also has an influence on employees' private lives; this means that employees that are unhappy in the workplace tend to also be unhappy at home. Such unhappiness often is dealt with using or abusing alcohol and other substances, which in turn affects work-related attitudes and absenteeism (Josias, 2005).

Roelen, Koopmans, Notenbomer, and Groothoff (2008) establish that job satisfaction could be used to indicate employee sick leave patterns. They encourage organisations to investigate the job satisfaction levels of employees who are absent often and use a lot of sick leave.

Employees who encounter job dissatisfaction often are tempted into using alcohol and other substances (Mogorosi, 2009). The studies of Frone and Windle (1997), and Saari and Judge (2004) confirm a relationship between job satisfaction and substance use. These studies determine that behaviour such as tardiness, sick leave abuse and abusing alcohol and other substances are related to employees who suffer from poor levels of job satisfaction.

Lee and Ross (2011) indicate that employees who use higher levels of substances are more likely to use more sick leave or be absent from work more frequently. Their study confirmed that there is a positive correlation between substance use and absenteeism and that substance abuse policies and testing have a moderating influence on absenteeism and substance use.

It is stated clearly by Chauke (2007) that substance abuse by the employee is one of the key causes of absenteeism. Employees resort to substances to relieve their stress levels, marital and other problems (Johnson & Raskin, 1995; Nevid, Rathus, & Greene, 2003). Kornhauser and Sharp (1932) examined absenteeism levels and found that negative opinions about the employees' supervisor would result in lower job satisfaction, which also has an influence on other matters such as absenteeism and substance use. According to the research conducted by

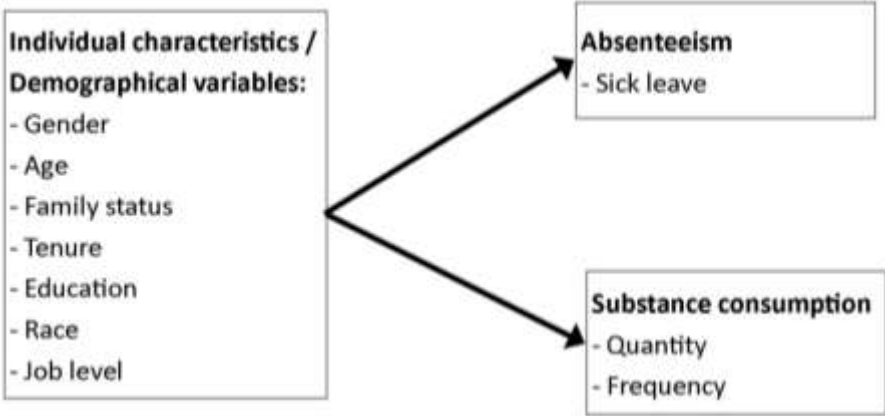
Gilson (2007) and Roche et al. (2008), it was evident that employees who often are associated with excessive absenteeism also frequently indicate high levels of substance use.

From the above the following hypotheses are set:

- H₁: A relationship exists between employee substance use and employee absenteeism.
- H₂: Male employees use more substances than female employees do.
- H₃: Younger employees use more substances than older employees do.
- H₄: Line managers use more substances than other employees do.
- H₅: Substance use has a significant influence on employee absenteeism.

Conceptual model

A baseline model, as illustrated in Figure 1, which is consistent with the model of Goldberg and Waldman (2000) and Steers and Rhodes (1978) in their review of absenteeism, was used. As part of the baseline model the focus was on the relationship between individual characteristics of an employee, employee absenteeism and employee substance use.



Adapted model (Goldberg & Waldman, 2000; Steers & Rhodes, 1978)

Figure 1 Model of employee absenteeism

This model suggests that employee absenteeism/attendance is influenced by the employee’s motivation to be at work (values and expectations) and his or her ability to go to work (e.g. illness, accidents, family reasons, or transportation issues) (Steers & Rhodes, 1978).

Method

Research design

A quantitative, cross-sectional research approach was followed to compare a large number of cases and to determine the cause-and-effect relationship between variables. Primary data were collected from questionnaires that were completed by permanent employees at the power utility.

Research participants

Participants were sampled using the convenience sampling method with certain inclusion and exclusion criteria. A total of 548 permanent employees based at a power utility in Mpumalanga were approached to partake in the study. Employees who were employed in a permanent position at the power utility and gave consent to willingly participate in the research study were included, whereas employees who were employed in the past three months were excluded, due to an insufficient leave record.

239 permanent employees provided consent and participated in the research study. This reasonable response rate is attributed to the support from the management team at the power utility. The biographical representation of the research participants is outlined in Table 1.

Table 1

Compilation of study population (N=239)

Item	Category	Frequency	Percentage
Gender	Male (1)	145	60.7
	Female (2)	93	38.9
	Missing responses	1	0.4
	Total	239	100.0
Age	18-25 years (1)	16	6.7
	26-35 years (2)	116	48.5
	36-45 years (3)	59	24.7
	46-55 years (4)	28	11.7
	56 years and older (5)	19	7.9
	Missing responses	1	0.4
	Total	239	100.0
Family Status	Single (1)	57	23.8
	Engaged / dating (2)	43	18
	Married (3)	119	49.8
	Divorced (4)	18	7.5
	Missing responses	2	0.8
	Total	239	100.0
Tenure	Less than 4 years (1)	57	23.9

	5-10 years (2)	121	50.6
	11-15 years (3)	19	7.9
	16-20 years (4)	15	6.3
	21-25 years (5)	5	2.1
	26-30 years (6)	8	3.4
	31 years and more (7)	13	5.4
	Missing responses	1	0.4
	Total	239	100.0
Education	Matric / Grade 12 (1)	70	29.3
	Diploma (2)	54	22.6
	Higher Diploma (3)	18	7.5
	Degree (4)	42	17.6
	Post-graduate degree (5)	28	11.7
	Other (6)	24	10
	Missing responses	3	1.3
	Total	239	100.0
Race	African (1)	161	67.4
	White (2)	66	27.6
	Coloured (3)	1	0.4
	Asian (4)	10	4.2
	Other (5)	0	0.0
	Missing responses	1	0.4
	Total	239	100.0
Job Level	T04 (1)	5	2.1
	T05 (2)	7	2.9
	T06 (3)	21	8.8
	T07 (4)	21	8.8
	T08 (5)	2	0.8
	T09 (6)	5	2.1
	T10 (7)	35	14.6
	T11 (8)	13	5.4
	T/P12 (9)	59	24.7
	T/P13 (10)	21	8.8
	M/P/G14 (11)	3	1.3
	M/P/G15 (12)	13	5.4
	M/P/G15 (13)	17	7.1
	M/P/G17 (14)	3	1.3
	M/P/G18 (15)	1	0.4
	Other (16)	2	0.8
	Missing responses	11	4.6
	Total	239	100.0

Measuring instrument

The research questionnaire consists of standardised measures and a section to gather individual/demographical (gender, race, age, marital status, tenure, education and job level) information.

Absenteeism was measured by Goldberg and Waldman's (2000) two-item open-ended absenteeism scale, as well as the work absence item of Lee and Ross (2011). The internal reliabilities for the Goldberg and Waldman (2000) questionnaire were between 0.74 – 0.76. In his study, Reid (2008) determines the alpha coefficients for the Lee and Ross (2011) questionnaire to be a low 0.63, due to the limited number of variables available to analyse.

The substance use measure of Surujlal, Nolen, and Ubane (2012), that was validated and adapted by Surujlal and Keyser (2014) to align with the industrial sector, was adopted. This questionnaire consists of four sections, namely substance use patterns, drinking consequences, smoking and general knowledge. Each item is rated on a Likert-type scale of one to five, except for the general knowledge section that is based on true or false statements. In their study, Surujlal and Keyser (2014) determine an overall internal consistency for sections B and C of $\alpha = 0.74$, which meets the benchmark of 0.70.

Research procedure

The researcher explained and discussed the purpose, objectives and importance of the study and highlighted that participation in the research study was voluntary. Written consent was obtained from the organisation before the commencement of the study. All participants were briefed on the research project and given the opportunity to ask questions or raise concerns before considering participating in the study. Participants were required to sign a consent form where it was stated clearly that the information obtained from the results of the questionnaires would be treated with a high level of confidentiality and that the feedback from the results obtained would only be used for research purposes. The questionnaire was constructed and administered in English to the employees at the power utility in Mpumalanga who agreed to take part in this study, with a translator available upon request. The questionnaires were accompanied by a cover letter, which explained the purpose of the study and the confidentiality of the information obtained from the study. Feedback was available to participants at the end of the study.

The questionnaires were completed on paper and returned to the researcher to prepare for analysis with the Statistical Package for the Social Sciences (IBM SPSS 24, 2017) software programme.

Statistical analysis

The IBM SPSS 24 (2017) statistical program was used to reveal the relationship between individual variables, absenteeism and the levels of substance consumption using linear

modelling. The influence of the levels of job satisfaction on the relationship between substance use and absenteeism will be verified through interactor or moderating effects.

Descriptive statistics are used to reduce large quantities of data in order to draw conclusions or form a general impression of the data (Huysamen, 1983). The descriptive statistics such as mean, median, standard deviation, residuals, skewness and kurtosis will be determined in order to describe and profile the data. Cronbach alpha coefficients and exploratory factor analysis will be used to report the construct reliability and reliability of the measuring instruments. Values will range from zero to one, with higher values indicating a greater reliability (Struwig & Stead, 2003).

Pearson correlation is used to determine the direction and strength of the relationship between two variables. The Pearson correlation will be determined for individual variables, substance use and job satisfaction; individual variables and absenteeism; as well as absenteeism and substance use.

Analysis of variance (ANOVA) is used to determine to analyse the difference between substance use, individual variables and absenteeism. ANOVA is explored to determine if there are any statistical differences between individual variables, substance use, absenteeism and job satisfaction. Multivariate analysis of variance (MANOVA) is applied to test for various vectors of means and to test the hypotheses. Using the Wilks' lambda statistics, the statistical significance between the individual variables, the frequency of substance use and quantity of substance use by employees will be analysed.

Results

Descriptive statistics and alpha coefficients for the measuring instruments for employee (N=239) working in the power utility in Mpumalanga are reported in Table 2. The Cronbach alpha coefficients of the measuring instrument are acceptable compared to the guidelines of Nunnally and Bernstein (1994) of 0.70 and Kim and Kim (1995) regarded a coefficient in the range of 0.50 to 0.60 as sufficient.

Table 2

Descriptive statistics and alpha coefficients for measuring instruments used

Variable	α	Mean	SD
Frequency of substance use	0.66	15.76	3.72
Quantity of substance use	0.77	16.20	3.87
Job satisfaction	0.92	10.29	3.72

In Table 3, Pearson's correlations were performed to test hypotheses two, three and four (H₂, H₃ and H₄).

Table 3

Pearson correlations between demographical characteristics, frequency of substance use and quantity of substance use

Variable	1	2	3	4	5	6	7	8	9	10
1. Gender	1									
2. Race	-0.09	1								
3. Age	-0.01	0.15*	1							
4. Status	-0.07	0.27**	0.38**	1						
5. Tenure	-0.09	0.20**	0.51**	0.21**	1					
6. Education	0.03	0.05	0.16*	0.01	0.04	1				
7. Job level	-0.11	0.14*	0.28**	0.13*	0.23**	0.28**	1			
8. Days absent	0.21*	-0.09	0.19*	0.10	0.04	0.05	0.12	1		
9. Frequency of use	0.09	0.01	-0.09	-0.05	-	0.12	0.01	-	1	
10. Quantity of use	0.25**	0.19*	0.17*	0.14	0.03	0.17*	0.13	-0.07	0.70**	1
11. Job satisfaction	0.05	-0.11	0.15*	0.05	0.05	0.05	0.06	-0.09	0.26**	0.25**

* Statistically significant $p \leq 0,01$

† Correlation is practically significant $r > 0,30$ (medium effect)

†† Correlation is practically significant $r \geq 0,50$ (large effect)

The results in Table 3 indicate that a positive statistical correlation exists between gender and quantity of use by the employee. No correlation exists between gender, age, status, tenure, education and frequency of use of employees. Furthermore, it is clear that a positive practical significance with a high effect was found between frequency of substance use and quantity of

substance use of employees. These findings are supported by Roche et al. (2008), who found that male and younger employees were more likely to use higher levels of substances and be absent from work due to alcohol-related reasons. A statistically positive relationship was found between job satisfaction, the frequency of substance use and quantity of substance use.

MANOVA was used to determine the differences between demographical variables, the frequency of substance use and quantity of substance use of employees. Wilks' lambda statistics were used to analyse the statistical significance.

Table 4

MANOVA – Difference between demographical variables, frequency of substance use and quantity of substance use

Variable	Wilks' lambda	F	Df	Error df	p	η^2
1. Gender	0.94	4.95	2.0	147.0	0.01*	0.06
2. Race	0.90	3.93	4.0	292.0	0.00*	0.05
3. Age	0.82	3.81	8.0	288.0	0.00*	0.10
4. Status	0.91	2.37	6.0	288.0	0.03*	0.05
5. Tenure	0.78	3.08	12.0	284.0	0.00*	0.12
6. Education	0.91	1.45	10.0	284.0	0.16	0.05
7. Job level	0.97	0.84	6.0	284.0	0.54	0.02

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

In an analysis of Wilks' lambda, no differences regarding the frequency of substance use or quantity of substance use levels could be found with regards to the educational level of employees. However, statistically significant differences ($p < 0.05$) were found amongst gender, race, age, status, tenure and job levels of employees with regards to substance use and quantity of substance use levels. Next, ANOVA was performed to see if differences exist between gender, race, age, status, tenure, job level, substance use and quantity of substance use.

Table 5

ANOVAS – Differences in frequency of substance use and quantity of substance use in levels of gender

Item	Males	Females	<i>p</i>	η^2
Frequency of substance use	15.50	16.13	0.33	0.01
Quantity of substance use	15.77	17.48	0.01*	0.05

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

As seen from Table 5, female employees' quantity of substance use is statistically significantly ($\eta^2 = 0.05$) more than that of male employees. This finding is supported by the study of Johansson et al. (2008), who also found higher levels of substance use among females. On the other hand, Anderson (2012) found that male employees are more likely to use and misuse substances. He also found that substance use levels are often associated with excessive absenteeism and sick leave amongst men and women.

As seen from Table 6, Asian employees use higher quantities of substances than other employees. There is a small difference in quantity of use between White and Coloured employees. The findings of Larson, Eyerman, Foster, and Gfroerer (2007) do not support the finding that Asian employees use higher quantities of substances more often. On the contrary, they found that White employees use more illicit drugs and African employees use more alcohol.

Table 6

ANOVAS – Differences in frequency of substance use and quantity of substance use in levels of race

Item	1	2	3	4	<i>p</i>	η^2
Frequency of substance use	12.22	12.15	2.00	16.30	0.10	0.03
Quantity of substance use	14.70	17.62	17.00	19.10	0.01*	0.04

1=African; 2= White; 3= Coloured; 4= Asian

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

It is clear from Table 7 that employees between the age of 36-45 years and 56 years and older use higher quantities of substances than younger employees less than 35 years of age. There were no significant differences between different age groups and the frequency of substance use. Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm, and Gmel (2009) confirm the outcomes of this study with their findings that individuals between the ages of 35-49 indicate higher levels of alcohol consumption than for any of the other age groups.

Table 7

ANOVAS – Differences in frequency of substance use and quantity of substance use in levels of age groups

Item	1	2	3	4	5	<i>p</i>	η^2
Frequency of substance use	15.58	15.74	17.09	14.38	14.27	0.07	0.07
Quantity of substance use	14.08	16.00	17.79	16.43	17.18	0.03*	0.02

1= 18-25 years; 2=26-35 years; 3=36-45 years; 4= 46-55 years; 5=56 years and older

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

Table 7 shows a significant statistical difference in the quantity of substance use. Regarding the quantity of substance use, age groups 36-45 and 56 years and older indicated the highest quantity of substance use. Young people between 18-25 years use a lesser quantity of substances. The study of Lee and Ross (2011) found that individuals between the ages of 18-25 were more prone to substance misuse. In addition to this Fay (2010) found that this age group mainly misuse substances other than alcohol (such as dagga, nicotine and prescription medication).

Table 8

ANOVAS – Differences in frequency of substance use and quantity of substance use in levels of family status

Item	1	2	3	4	<i>p</i>	η^2
Frequency of substance use	15.97	16.13	15.77	14.58	0.68	0.01
Quantity of substance use	15.83	15.50	16.99	16.33	0.22	0.03

1= single ; 2=engaged/dating; 3=married; 4=divorced

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

As seen from Table 8 divorced employees use substances less frequently but more in quantity than single employees do. Regarding married employees and those who are engaged or dating, the frequency and quantity is not so different. Kerr-Correa et al. (2005) found that married individuals are more likely to use alcohol and other substances (such as tobacco).

Table 9

ANOVAS – Differences in frequency of substance use and quantity of substance use in levels of tenure groups

Item	1	2	3	4	5	6	7	<i>p</i>	η^2
Frequency of substance use	15.55	16.32	15.75	16.00	11.50	13.14	14.12	0.16	0.06
Quantity of substance use	15.08	16.75	16.08	17.92	17.50	16.29	17.38	0.20	0.06

1= less than 4 years; 2=5-10 years; 3=11-15 years; 4=16-20 years; 5=21-25 years; 6=26-30 years; 7=31 years and more

$\eta^2 > 0,25$ = large effect

* Statistically significant difference: $p < 0,05$

Table 9 indicates that employees with 21-25 years of tenure use less frequently than other employees, but those with 16-20 years of service use higher quantities of substances than employees do with less than four years of service. Very few studies investigated the relationship between tenure and substance use, but in his study, Frone (2012) found that tenure did not have any relationship with employees' levels of substance use.

Table 10

Results of hypotheses testing

Hypothesis	Accepted or rejected
H ₁ : A relationship exists between substance use and employee absenteeism	Accepted. A positive correlation was found between substance use and employee absenteeism. This means that the statistical analysis indicated a positive relationship between substance use and absenteeism. Consequently, when employee substance use levels increases, employee absenteeism also increases.

H ₂ : Male employees use more substances than female employees do.	Rejected. Overall, male employee indicated a significant lower relationship with substance use than female employees did. Therefore, the statistical variation determines that female employees in the power utility in Mpumalanga display higher levels of substance use than male employees do.
H ₃ : Younger employees use more substances than older employees do.	Accepted. A significant statistical relationship was found between younger employees and substance use. Insufficient research exist that focus on the reason why younger employees use more substances than older employees (Frone, 2003).
H ₄ : Line managers use more substances than other employees do.	Rejected. There was not a significant difference in substance use between line manager and other employees. The variance detected was not large enough to indicate an influence. This means that line managers do not use higher quantity and/or frequency of substance use than other employees.
H ₅ : Substance use has a significant influence on employees absenteeism	Accepted. The frequency of substance use has a statistically significant influence on employee absenteeism. This is possibly due to the effects of substance use on the individual (Nevid et al., 2003)

The study of Schou et al. (2014) suggest that these differences occur due to factors such as the drinking culture or habits of the employee group and the sickness absence benefits of the organisation. They also indicate that young employees often use higher levels of substances than older employees do. On the other hand, Bacharach et al. (2010) and Frone (2012) determine that employees duties, working hours and overtime have an enormous effect on their motivation, use of substances and/or absence from work. Employees in some positions are at higher risk of turning to substances and being absent unnecessarily (Harker-Burnhams, et al., 2013). In addition to this, the outlook of Belhassen and Shani (2012) is that religion could be a reason for employees to use substances excessively.

Van Heerden et al. (2009) determined that substance dependence is established amongst teenagers at an early age and this behaviour is carried into the workplace. This may explain why younger employees use more substances than older employees.

Discussion and conclusion

In this study, the relationship between substance use and absenteeism levels at a power utility in Mpumalanga was investigated. It is clear from the literature review of the article that substance use in organisations is a global concern. The improved economic possibilities in South Africa gave way to increasing alcohol consumption and opportunities for substance use (Smook et al., 2014). There is a high prevalence of substance abuse among employees in South Africa, which is linked to high rates of absenteeism, low levels of production, wasted money, incidents and accidents and poor conduct, although there is little statistical evidence to support this perception (Frone, 2003).

The relationship between demographic variables and absenteeism and substance use levels is frequently understated in previous research. Workplace substance use and absenteeism have many implications on the safety and productivity of organisations. The majority of the findings of this study are supported by international and national research.

This study confirms that certain individual variables have an influence on employee absenteeism and levels of substance use. It also confirms that there is a positive relationship between substance use and employee absenteeism, especially when taking into account the frequency of substance use.

Some of the reasons for the differences in substance use and absenteeism among certain demographic groups were accounted to the culture in the area where the employees reside, as well as organisational benefits. From the information scrutinised in this study it is evident that the location of the power utility have an enormous effect on the drinking culture of its employees. Therefore, the location of the power utility is an important consideration for HR practitioners when attempting to curb the substance use and absenteeism behaviour of employees.

Moreover, IR/HR practitioners are able to implement the appropriate interventions to reach the target population when they are aware of the personal and demographic variables that are indicative of higher substance use levels. Roelen et al. (2008) suggest that the level of employee job satisfaction should be investigated often in order to gauge employee absenteeism and

intervention effectiveness. Talent retention can be used as a tool to motivate employees to perform and often attend work (Theron, 2014).

Other aspects that should be considered to reduce employee absenteeism and substance use levels include support from peers/colleagues. Such support will assist employees to reduce their substance use levels and attend work more often. Support from an employee's supervisor, such as one-on-one discussions when returning from sick leave, will facilitate in monitoring employee progress and understanding his or her limitations upon return to work (Bacharach et al., 2010).

In addition to this, this study established that absenteeism, substance use and job satisfaction could have a considerable influence on organisations. It also investigated closing the gap in the research by presenting findings that link these constructs in the workplace.

Study limitations and recommendations for future research

The study has several limitations and should be interpreted in the context of these limitations. First, the questionnaire did not focus on the types of drugs used but primarily emphasised the frequency and quantity of substances used. Secondly, the findings cannot be generalised to workplaces or sectors in other industries.

Despite the limitations as mentioned, this study highlights that there is a need for further research into the nature of substance use. Research needs to be performed in different industries and workplaces to be able to identify risk factors for employees who use substances. Furthermore, it is recommended that the employer implements plans for identification by using routine screening and employ appropriate and effective evidence-based prevention programmes designed for the workplace. More research is needed regarding different industries and employee demographical variables in South Africa.

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CHAPTER 3

THE MODERATING ROLE OF JOB SATISFACTION ON WORKPLACE ABSENTEEISM AND SUBSTANCE USE AMONGST THE EMPLOYEES AT A POWER UTILITY IN MPUMALANGA

Abstract

Orientation: Studies have established that there is indeed a relationship between the levels of substance use and absenteeism, but very few of them recognise the role of job satisfaction in this relationship. Substance use levels consist of the quantity and frequency of usage. This article focuses on the moderating role of job satisfaction on workplace absenteeism and substance use amongst the employees at a power utility in Mpumalanga.

Research purpose: This article scrutinises the extent to which job satisfaction predicts absenteeism and substance use levels and investigates the moderating effect of job satisfaction, on absenteeism and substance use levels, amongst the employees at a power utility in Mpumalanga.

Motivation for the study: The aim of this article is to determine if job satisfaction can moderate an employee's attitude towards using substances or being absent from work. Job satisfaction is used to measure the employees' level of content with their current work situation. This level of content can also be used to predict certain employee behaviours such as absenteeism patterns and substance use levels.

Research design, approach and method: This study is based on data gathered from a survey regarding job satisfaction, absenteeism and the substance consumption levels of employees at a power utility in Mpumalanga, its antecedents and outcomes. A total of 239 permanent employees based at a power utility in Mpumalanga participated in the research study. These employees were employed in a permanent position at the power utility, gave consent to willingly participate in the research study and were employed for more than three months.

Main findings: The core findings of this study revealed that the frequency of substance consumption has an influence on employee absenteeism and that job satisfaction indeed plays a moderating role on the relationship between substance consumption levels and employee absenteeism.

Practical and managerial implications: The findings of this study can assist management to understand the relationship between substance consumption and absenteeism and how job satisfaction influences this relationship in order to properly restrict unnecessary absenteeism.

Contribution: This study added value to the field of study by adding scientific research to the lacking literature. In addition, it confirms international findings and its applicability in the energy sector.

Key words: job satisfaction; absenteeism; alcohol; smoking; substance use; individual variables

INTRODUCTION AND PROBLEM STATEMENT

The substance use habits of employees can have a harmful effect on the employees' colleagues, the organisation and even the community because it decreases the competitiveness and efficiency of the organisation (Roche, Pidd, & Kostadinov, 2016). Substance abuse is a global concern and is on the increase among employees in South Africa. There is currently incomplete national data regarding workplace substance abuse (Smook, Ubbink, Ryke, & Strydom, 2014). Wilkinson (2015) explains that 75 percent of alcohol users and 70 percent of drug users are employed in the workforce. Previous international research mainly focused on employee alcohol use (Lee & Ross, 2011; McCabe, Boyd, & Teter, 2009), illicit drug use, prescription drug abuse or misuse (Fenton, Keyes, Martins, & Hasin, 2010; Kroutil et al., 2006) but inadequate attention has been focused on alcohol use and illicit substance use by employees in South Africa (Belhassen & Shani, 2012). Previous research in South Africa focused more on student-athletes' drinking patterns (Surujlal, Nolan, & Ubane, 2012) and students-athletes' demographical variables and alcohol consumption (Surujlal & Keyser, 2014).

In the study by Belhassen and Shani (2012), future research on the relationship between substance consumption and aspects such as job satisfaction was recommended to understand substance consumption and its effect on the working environment. According to the National Drug Master Plan of South Africa (Department of Social Development, 2010), the majority of individuals that received treatment from 2008 until 2010 reported using cannabis, cocaine, heroin and amphetamines. This plan also stipulates that for the same period a total number of 4288 individuals in the Mpumalanga region were treated for substance abuse.

An employee's substance use has negative implications at the workplace such as unsafe work conditions, additional workload to co-workers, lower morale and a possible decrease in job satisfaction levels (Frone & Brown, 2010). Smook et al. (2014) report that organisations are hesitant to deal with substance use issues in the workplace due to the stigmatisation and decline in job satisfaction. Belhassen and Shani (2013) determine in their research that employees who use illicit substances reported lower levels of job satisfaction than those who smoked and used alcohol. In contrast to this finding, Frone and Windle (1997) establish in their study that employees who smoke and use alcohol are prone to lower job satisfaction levels.

Job satisfaction also has an influence on employees' private lives; this means that employees that are unhappy in the workplace tend to also be unhappy at home. Such unhappiness often is dealt

with by using or abusing alcohol and other substances, which in turn affects work-related attitudes and absenteeism (Josias, 2005).

Thirulogasundaram and Sahu (2014) determine that job satisfaction is one of the main causes of absenteeism and that employees who experience poor job satisfaction are more frequently absent from work than those with higher levels of job satisfaction. Their study confirmed an inverse relationship between absenteeism and job satisfaction, meaning that high job satisfaction predicts low absenteeism and poor job satisfaction predicts high absenteeism.

Saari and Judge (2004) found that low levels of job satisfaction predict poor job performance, reduced life satisfaction and withdrawal behaviours such as tardiness, absenteeism and drug use. Employees who encounter job dissatisfaction are often tempted to use alcohol and other substances (Mogorosi, 2009). Martin and Roman's (1996) study that focuses on job satisfaction, reward characteristics and substance use behaviours, concluded that a work environment or working conditions and low levels of job satisfaction might lead to increased levels of alcohol and substance use.

Edvardsen, Moan, Christophersen, and Gjerde (2015) reveal that employees do not have a true perception of the extent of their absenteeism. They also found that little is known about the degree to which substance consumption use influences workplace safety, absenteeism and employee performance. However, Bacharach, Bamberger, and Biron (2010), as well as Roche, Pidd, Berry, and Harrison (2008) confirm in their studies that there is a definite relationship between substance consumption and workplace absenteeism. Bacharach et al. (2010, p. 334-335) mention that the effect of an employee's drinking is "more complex than individuals and workplace factors on absenteeism". They further mention that there are two issues of concern. First, "the degree to which the mechanism underlying this relationship is governed by the amount of alcohol consumed as opposed to the way it is consumed" and secondly, "the elasticity of the alcohol-absence relationship, and in particular, the degree to which it may be conditional upon the relational context at work" (p. 335). From a theory-grounded perspective, it is crucial to investigate alcohol-absence for a number of reasons. With previous research, there was a discrepancy regarding the findings of the positive alcohol-absence relationship as some researchers found U-shaped, null and even inverse relationships. Previous research was only on the alcohol-absenteeism relationship. There is limited scientific evidence that employees using alcohol have a higher frequency and incidence of sickness absence than employees that use other substances (Bacharach et al., 2010).

When exploring absenteeism from a social exchange perspective the literature suggests that employees tend to withdraw from a negative work environment in order to avoid feelings of dissatisfaction, but when they experience higher job satisfaction less absenteeism is noted (Boon, Belschak, Den Hartog, & Pijnenburg, 2014). Dissatisfied individuals will engage in behaviour that harms the organisation, other employees or both and vice versa (Mazni, Roziah, Maimunah, & Bahaman, 2013)

Therefore, the current study focuses on the revised model of Goldberg and Waldman (2000) and Lee and Ross (2011), which indicates a substance-absenteeism relationship including variables capturing both the frequency substances is consumed and the amount of substance consumption and not only focus on the use of alcohol but also other substance use.

LITERATURE REVIEW AND HYPOTHESES SETTING

Employee substance use and absenteeism

Bacharach et al. (2010) emphasises that the impairment dynamic of how alcohol is consumed can be captured more effectively if researchers focus on the frequency of individuals' heavy drinking episodes. Ames, Grube, and Moore (2000) found that employees have a higher rate of absenteeism when they have at least one episode in the past year in which they consume more than ten servings of alcohol.

In western societies, absenteeism is a major problem (Luz & Green, 1997) and measuring absenteeism is important to control payroll and benefits systems, enhance workplace production, control personnel costs and address possible issues that lead to high levels of sick leave use (Josias, 2005).

In most of the studies, researchers focus on the linkage between alcohol consumption and absenteeism and this research is grounded on an illness and injury reason and not on substance use and absenteeism. These drinking patterns were conceptualised regarding the modal level of alcohol consumption (amount/serving of alcohol consumption) in a period and the number of times used during a week or a month.

An employee's absence from work is undesirable behaviour that influences their colleagues and the employer regarding company profitability, productivity, service delivery, work ethic, labour relations, worker cooperation and trust among fellow employees and supervisors. Employees who often are absent cause their co-workers to do their work while they are absent and these co-

workers become dissatisfied. As a result, absenteeism has a major effect on the co-workers' morale and overall job satisfaction levels (Chauke, 2007).

Employees who use alcohol and other substances to cope with their work pressure reported higher levels of substance use and even alcohol-related problems compared to those employees who do not use substances as an escape mechanism. Therefore, employees that use substances to escape or experience low levels of job satisfaction are at a higher risk for increased substance use (Grunenberg, Moore, Anderson-Connolly, & Greenberg, 1999).

Factors such as an uncomfortable work environment, lack of safety, inadequate resources, poor supervision, problems with peers, low salary, little training opportunities, job insecurity and lack of opportunities for career advancement can lead to a decrease in employee job satisfaction, which Setati (2014) confirm would lead to depression. Such an adverse work environment can contribute to employee problems like substance misuse (Mogorosi, 2009; Setati, 2014).

Frone and Brown (2010) state that the importance of understanding the variables that predict employee substance consumption often is underestimated. These predictors are important for numerous reasons. Some of these reasons were that certain groups of employees reported a higher level of availability of substances at the workplace and the inability to perform at work due to substance consumption.

The study of MacDonald (1997) confirmed that workplace substance use reduces the employee's ability to perform work. He also found that there is a compelling relationship between substance use and injuries and accidents in the workplace.

In recent research, it was found that employees with high levels of job satisfaction are less likely to be absent from work, leave the organisation, have accidents at work or experience employee stress, and as a result show an increase in productivity rates (Rast & Tourani, 2012; Theron, 2014). Nguyen, Groth, and Johnson (2013) found that there is a direct correlation between employee confidence and negative work behaviours such as absenteeism and lower job satisfaction.

The process absenteeism model of Steers and Rhodes (1978) is affected by both the employees' motivation to attend work, as well as their ability to attend work. In this model, Steers and Rhodes (1978) refer to this as voluntary and involuntary absenteeism, which is affected directly by job satisfaction. In line with this model, Langenhoff (2011) found that employees who

experience high levels of job satisfaction want to be at work and as a result, job satisfaction can predict lower levels of absenteeism.

The absenteeism model of Nicholson (1977) was developed to predict absenteeism, but he notes that employee absenteeism is influenced by motivation and that there are different types of absenteeism. Overall, this model investigates factors such as job satisfaction that motivate employees to be at work (Bermingham, 2013).

Studies throughout history established that employee absenteeism is a significant problem in organisations worldwide. Some of these studies also indicated inconsistent findings in the strength of the relationship between employee absenteeism and job satisfaction, which gives the notion that this may be a moderated relationship rather than a direct one (Scott & Mabes, 1984). Sui (2002) determines that the relationship between employee absenteeism and job satisfaction is stronger under certain conditions. Such conditions may include substance use, supportive co-workers and demographic variables (Bacharach et al., 2010).

Job satisfaction, employee absenteeism and substance use

In the social sciences field, the topic of employee job satisfaction has always involved extensive empirical research, which leads to several definitions (Mafini & Poee, 2013). In simple terms, job satisfaction can be defined by saying that it is “the degree to which employees like their jobs and the different aspects thereof” (Josias, 2005, p. 13). It means that an employee may like certain parts of his or her job and be dissatisfied with other parts, but still have an overall high level of job satisfaction. Therefore, it would be safe to say that job satisfaction is the employee’s general attitude towards his or her job (Josias, 2005).

The relationship between absenteeism and job satisfaction has been examined on numerous occasions because absenteeism is believed to be one of the ways to deal with a stressful work environment. Luthans (2011) states that higher job satisfaction is very likely to result in decreased levels of employee absenteeism. Although there is not a very strong relationship between job satisfaction and employee absenteeism, it is acknowledged that job satisfaction does indeed predict employee absenteeism levels (Anderson, 2004; Hardy, Woods, & Wall, 2003).

From their literature review, Saari and Judge (2004, p. 396) define job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences”. This means an element of personal feelings influences how an employee experiences his or her job (Setati, 2014).

In his study, Schlemmer (2009) came to an understanding that job satisfaction is the extent to which employees like their jobs, but also found that job satisfaction is made up of intrinsic and extrinsic satisfaction. Intrinsic job satisfaction refers to aspects in relation to the job tasks, such as the job itself, skills utilisation, achievement, responsibility, recognition and variety of tasks. Extrinsic job satisfaction has to do with aspects that do not directly relate to the tasks that employees are employed to perform, such as remuneration, working conditions, supervision and interpersonal relationships (Schlemmer, 2009; Setati, 2014).

The above paragraphs confirm that job satisfaction occurs when a person is content or satisfied in his or her work environment, but what causes a person to experience job satisfaction? According to the international research of Ogunleye, Odebiyi, and Olaoye (2013), there are four factors that determine job satisfaction, namely equitable rewards, supportive working conditions, mentally challenging work and supportive colleagues.

Over the past 30 years, several studies were conducted on the relevance of norms in the workplace. These studies found that employee norms have an influence on job satisfaction, absenteeism and substance use (Clarke, Probst, Guldenmund, & Passmore, 2015). As mentioned by Eaton, Ohan, and Dear (2015), stigmatisation of substance use by employees is a problem and it is associated with low job satisfaction and high turnover of employees.

Theron (2014) verifies that the matter of job satisfaction is vital for both the employers and the employees in an organisation. His study also explored the positive and negative effects of job satisfaction in an organisation. The negative consequences of poor job satisfaction include higher absenteeism rates, the rise in grievances, increased substance use and more early retirements (Theron, 2014).

The moderating effect of the role of job satisfaction and substance use levels

In their study, Goldberg and Waldman (2000) confirm that job satisfaction could moderate employee absenteeism. Aspects such as demographic variables, job characteristics and substance use already have a relationship with absenteeism, but when job satisfaction is introduced, this relationship will be influenced (Goldberg & Waldman, 2000; Lee & Ross, 2011).

Thirulogasundaram and Sahu (2014) establish a moderate, but consistent, inverse relationship between job satisfaction and employee absenteeism. They support that job satisfaction has a moderating influence on employee absenteeism and confirm that it plays a part in predicting

employee absenteeism. Hausknecht, Hiller, and Vance (2008) specifically state that job satisfaction plays a significant role in predicting employee absenteeism.

In her study, Josias (2005) determines that there is indeed a constant moderating inverse relationship between job satisfaction and an employee's absenteeism rate. She found that a higher level of job satisfaction resulted in a lower trend of absenteeism and the opposite also applies. She suggests that the frequencies in which absences occur will be more informative than the number of absent days.

According to Chauke (2007), one of the main causes of absenteeism is the employee's level of motivation. This level of motivation is subjective to age, years of service, job satisfaction, work environment, family responsibilities, policies, attitudes, distance from home, values and expectations. These issues indirectly influence the employees' productivity and happiness at work (Chauke, 2007; Yende, 2005).

This article is based on an adapted model combining the work of Goldberg and Waldman (2000) and Lee and Ross (2011), which includes the moderating role of job satisfaction on absenteeism and substance use. The model indicates that not only do the employee's individual variables influence their absenteeism and substance use levels, but also that job satisfaction plays a role on these variables.

Studies indicate substantial connotations between employee job satisfaction and the use of alcohol and other substances. Job satisfaction is an important factor in predicting employee substance use (Normand, Lempert, & O'Brien, 1994; Rooks, 2010). Saari and Judge (2004) also determine that job satisfaction influences aspects such as substance use and employee absenteeism.

From the theory above the following figure is conceptualised:

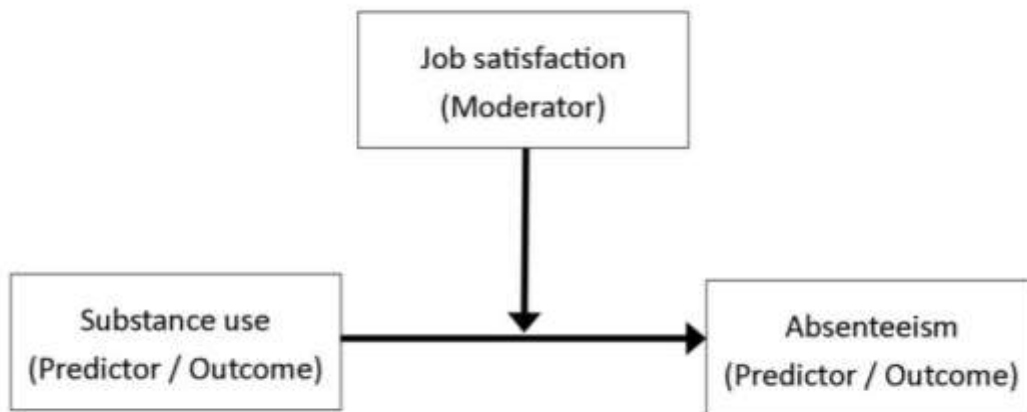


Figure 1 Conceptual model of the role of job satisfaction on the relationship between substance use and absenteeism

The following hypotheses are set:

H₁: High levels of substance consumption are positively related to high levels of absenteeism.

H₂: Job satisfaction predicts low levels of absenteeism.

H₃: Job satisfaction predicts low levels of substance consumption.

H₄: Substance use levels determine employee absenteeism.

H₅: Job satisfaction has a moderating effect on the absenteeism and substance consumption levels of employees.

RESEARCH DESIGN

Research approach

A quantitative, cross-sectional research approach was followed to compare a large number of cases and to determine the cause-and-effect relationship between variables. In this study, primary data were collected from questionnaires that were completed by permanent employees at the power utility.

Research method

Research participants

Participants were sampled using the convenience sampling method with certain inclusion and exclusion criteria. The inclusion criteria for selecting participants were that the participant should be employed in a permanent position at power utility in question and that the participant should be willing to participating in the research study. Employees that were employed in the past three months were excluded from the study because they have not yet built up a sufficient leave record.

A total of 548 permanent employees based on a power utility in Mpumalanga where approached to partake in the study. Employees who were employed in a permanent position at the power utility and gave consent to participate in the research study willingly were included, whereas employees that were employed in the past three months were excluded, due to an insufficient leave record.

A total of 239 permanent employees completed the questionnaire, provided consent and participated in the research study. The biographical representation of the research participants is outlined in Table 1. The population outline illustrates that more male employees than female employees participated in the study and that the majority of participants were married. The workforce at the power utility in Mpumalanga is relatively young. Therefore, the majority of participants were between the ages of 26 – 35 years and only have five to ten years of work experience at the power utility. Due to the minimum requirements of positions at the power utility, all the participants have at least Grade 12 and 70 percent of the participants have post-matric qualifications.

Table 1

Compilation of study population (N=239)

Item	Category	Frequency	Percentage
Gender	Male (1)	145	60.7
	Female (2)	93	38.9
	Missing responses	1	0.4
	Total	239	100.0
Age	18 – 25 years (1)	16	6.7
	26 – 35 years (2)	116	48.5

Item	Category	Frequency	Percentage
	36 – 45 years (3)	59	24.7
	46 – 55 years (4)	28	11.7
	56 years and older (5)	19	7.9
	Missing responses	1	0.4
	Total	239	100.0
Family Status	Single (1)	57	23.8
	Engaged / dating (2)	43	18
	Married (3)	119	49.8
	Divorced (4)	18	7.5
	Missing responses	2	0.8
	Total	239	100.0
Tenure	Less than 4 years (1)	57	23.9
	5 – 10 years (2)	121	50.6
	11 – 15 years (3)	19	7.9
	16 – 20 years (4)	15	6.3
	21 – 25 years (5)	5	2.1
	26 – 30 years (6)	8	3.4
	31 years and more (7)	13	5.4
	Missing responses	1	0.4
	Total	239	100.0
Qualification	Matric / Grade 12 (1)	70	29.3
	Diploma (2)	54	22.6
	Higher diploma (3)	18	7.5
	Degree (4)	42	17.6
	Post-graduate degree (5)	28	11.7
	Other (6)	24	10
	Missing responses	3	1.3
	Total	239	100.0

Measuring instrument

The research questionnaire consists of standardised measures and a section to gather biographical information.

The absenteeism and job satisfaction measure by Goldberg and Waldman (2000) includes subscales, namely the three-item job satisfaction predictor and two-item absenteeism scale. The job satisfaction predictors are scored on a Likert-type scale varying from one (strongly disagree) to five (strongly agree). The internal reliabilities for the questionnaire are between 0.74 – 0.76 and 0.86 for job satisfaction.

The Lee and Ross (2011) measure determining absenteeism also was used. In his study, Reid (2008) determines the alpha coefficients to be low ($\alpha=0.63$), due to the limited number of variables available to analyse.

The substance consumption measure of Surujlal, Nolen, and Ubane (2012) that was validated and adapted by Surujlal and Keyser (2014) to align with the industrial sector was also adopted. This questionnaire consists of four sections, namely substance consumption patterns; drinking consequences; smoking; and general knowledge. Each item is rated on a Likert-type scale of one to five, except for the general knowledge section that is based on true or false statements. In their study, Surujlal and Keyser (2014) determine an overall internal consistency for sections B and C of $\alpha = 0.74$, which meets the benchmark of 0.70.

Research procedure and ethical approval

The Basic and Social Sciences Research Ethics Committee (BaSSREC) of North-West University approved the study. The researcher explained the purpose, objectives and importance of the study to the participants and highlighted that participation in the research study was entirely voluntary. Written consent was obtained from the power utility in Mpumalanga before the commencement of the study. Furthermore, all participants were given the opportunity to ask questions or raise concerns before considering participating in the study. Participants were required to sign a consent form where it was clearly stated that the information obtained from the results of the questionnaires would be treated with a high level of confidentiality and that the feedback from the results obtained would only be used for research purposes. The questionnaire was compiled and administered in English to the employees at the power utility in Mpumalanga who agreed to take part in this study, with a translator available upon request. Feedback will be available to the participants when the study is concluded.

Statistical analysis

The IBM SPSS 24 (2017) statistical program was used to analyse the data obtained from the questionnaires. Linear modelling and latent variable modelling were implemented to investigate

model fit and indirect and interaction effects. The model sum of squares was used to establish the model fit to the data obtained. Cross validating determined and tested the generalisation of the model. Regression coefficients will be calculated to quantify the relationship between the predictor (job satisfaction) and the outcome (level of absenteeism or level of substance consumption) (Field, 2013).

Multiple linear regression analysis and simple slopes were used to predict the relationship between the variables. A collection of multiple regressions and the three stages to test for mediation were completed. As determined by the study of Baron and Kenny (1986), it is essential to compare the beta coefficients of different regression equations. The independent variable should predict the mediator and a combination of the independent variable and mediator should predict the dependent variable. In this study, the dependent variable will also be regressed on the independent variable. The independent variable will not predict the dependent variable when all these steps prove significant.

Table 2 indicates the results of multiple linear regression analysis, with job satisfaction as a dependent variable and absenteeism and substance consumption levels as independent variables.

RESULTS

Table 2

Multiple linear regression analysis with job satisfaction as dependent variable, absenteeism and consumption levels as independent variables

Model		Unstandardised		Standardised	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2
		Coefficients		Coefficients						
		B	SE	Beta						
1	(Constant)	10.25	0.27		38.24	0.00	15.77	0.32	0.10	0.10
	Absenteeism	-0.53	0.13	-0.32	-3.97	0.00				
2	(Constant)	7.46	1.12		6.69	0.00	11.52	0.38	0.14	0.13
	Absenteeism	-0.44	0.13	-0.27	-3.29	0.00				
	Frequency of substance use	0.17	0.07	0.21	2.58	0.01				
3	(Constant)	7.34	1.25		5.87	0.00	7.64	0.38	0.14	0.13
	Absenteeism	-0.44	0.14	-0.27	-3.28	0.00				
	Frequency of substance use	0.16	0.09	0.19	1.70	0.09				
	Quantity of substance use	0.02	0.10	0.02	0.22	0.83				

*Statistically significant at $p < 0,05$

As seen from Table 2, in Model 1, job satisfaction predicts employee absenteeism ($p < 0.05$). Table 2 specifies that Model 1 accounts for 10 percent of the total variance in job satisfaction, which is a statistically significant fit to the data ($p = 0.00$). The adjusted R^2 (0.10) indicates very little shrinkage from the unadjusted value (0.10), which means that the model may still be generalised. This finding is supported by the study of Ones, Viswesvaran, and Schmidt (2003), which found that job satisfaction predicts absenteeism and determines that there is indeed a relationship between absenteeism and substance abuse. Saravi et al. (2013) also verified that job satisfaction has a significant influence on employee absenteeism.

In Model 2, job satisfaction predicts both employee absenteeism and frequency of substance use. When adding the frequency of substance use, Model 2 reports for 14 percent of the total variance in job satisfaction. The adjusted R^2 (0.13) indicates some shrinkage from the unadjusted value (0.14). This means that the model may generalise well. Nonetheless, it seems that job satisfaction is a significant predictor of absenteeism ($p = 0.00$), as well as the frequency of substance use by employees ($p = 0.01$). In support of these findings, the study of Saari and Judge (2004) found that job satisfaction has an influence on absenteeism, substance use and withdrawal behaviours. They also establish that job satisfaction could predict absenteeism of employees.

In Model 3, job satisfaction predicts absenteeism, but not frequency or quantity of substance use. Therefore, Model 2 is the best fit model for this study.

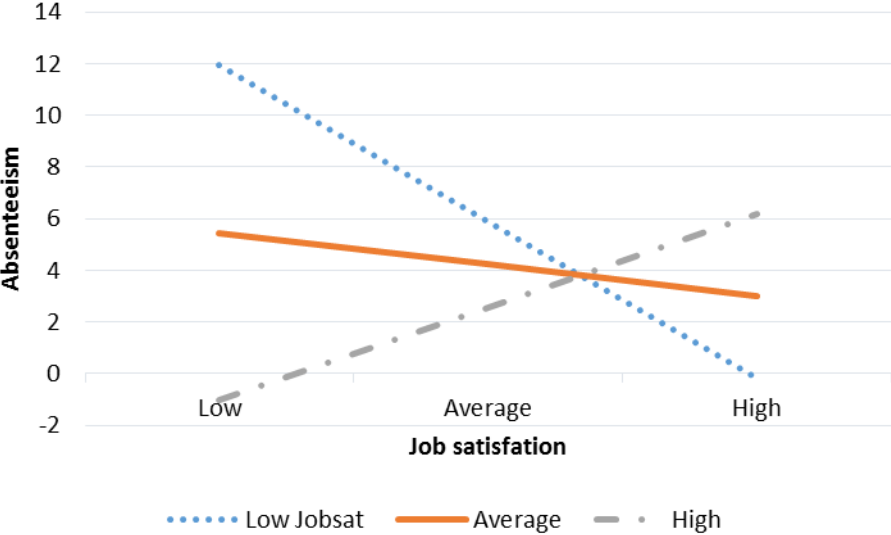


Figure 2 The relationship between job satisfaction and absenteeism

From the statistical analysis, the chart in Figure 1 was constructed to understand the relationship between job satisfaction and absenteeism better. This figure illustrates that higher levels of job satisfaction are associated with lower levels of absenteeism. In other words, employee absenteeism levels decrease as job satisfaction levels increase.

Considering the research that was conducted in this study, the following conceptual model was constructed. This model illustrates that substance use predicts absenteeism and that job satisfaction plays a moderating role on this relationship. It also indicates that both substance use levels and absenteeism are influenced by individual variables such as age, gender, race, tenure and qualifications.

Table 3

Results of hypotheses testing

Hypothesis	Accepted or rejected
H ₁ : High levels of substance consumption are positively related to high levels of absenteeism.	Accepted. The frequency of substance use is positively related to employee absenteeism. There is a significant relationship between substance use and employee absenteeism. This means that employees who use substance are more absent from work.
H ₂ : Job satisfaction predicts low levels of absenteeism.	Accepted. Job satisfaction predicts absenteeism (cf Table 2). Overall regression indicates that job satisfaction is a significant predictor of absenteeism.
H ₃ : Job satisfaction predicts low levels of substance consumption.	Accepted. Job satisfaction predicts the frequency of substance use. Overall regression indicates that job satisfaction is a significant predictor of frequency of substance use.
H ₄ : Substance use levels determine employee absenteeism.	Accepted. The quantity of substance use predicts and has an influence on employee absenteeism. This means that those employees who use higher quantities of substances also indicated significantly higher levels of absenteeism.
H ₅ : Job satisfaction has a moderating effect on the absenteeism and substance consumption levels of employees.	Accepted. Job satisfaction has a moderating effect on the absenteeism and substance consumption levels of employees. This means that job satisfaction has an influence on the relationship between levels substance use and employee absenteeism (H ₁).

DISCUSSION AND CONCLUSION

Organisations and the field of labour/employment relations will benefit from this research study because it will describe how job satisfaction plays a moderating role on workplace absenteeism

and substance use and to what extent job satisfaction may predict absenteeism and substance use levels. A determination can be made about whether job satisfaction predicts low levels of absenteeism and substance consumption and if substance use levels determine employee absenteeism. Knowing this will allow organisations to put corrective measures in place to improve not only employee absenteeism and workplace substance use, but also productivity and employee morale.

It is evident that issues such as low job satisfaction levels, absenteeism and substance use are associated with high costs (Josias, 2005). Most studies investigate the cost of substance use by employees, but very few of them explore the costs incurred by non-substance using employees. In Australia, the cost of non-substance using employees amounted to approximately \$14.2 billion due to wasted time and overtime because of a colleague's absence (Anderson, 2012). Over time, these factors can have an undesirable effect on the profit margin of the organisation. From the literature review, it is shown that satisfied employees are more committed to the success of the organisation and are less likely to be absent or use alcohol or other substances (Josias, 2005).

Forbes (2013) believes that a healthier and happier workforce will be more competent and motivated to go to work each day, resulting in an increase in productivity and higher morale for the individual employees and the entire team. Although such employee wellness strategies are costly to put into practise and uphold, they can have a beneficial influence on the organisation's net profit. This will result in an assured return on investment for the organisation (Forbes, 2013).

Botes (2013) notes that when employees frequently are involved in the performance of the company it will help them to recognise the role they play in the success of the business and will make them feel valued and appreciated; employees who work in a better working environment are more likely not to be absent (Mudaly & Nkosi, 2015). It is important to note that from 2014 the power utility started to provide voluntary retrenchment packages and as mentioned in the literature, produced mixed results regarding how substance use responds to change in economic conditions such as retrenchment (Maclean, Webber & French, 2015). It, therefore, is important that future research focuses on retrenchment, job satisfaction, substance use and absenteeism of employees. Nel (2002) and Boon et al. (2014) agree that when an organisation is perceived as caring and supporting of its employees the more likely it is to achieve a cooperative relationship. This, in turn, will result in a more satisfied workforce. The combination of job satisfaction and other forms of satisfaction leads to life satisfaction (Schlemmer, 2009).

The research in this chapter establishes that job satisfaction has a moderating effect on absenteeism and employees' level of substance use. It is now certain that low levels of employee job satisfaction will result in an increase in sick leave use, tardiness, as well as increased likelihood of using various substances.

LIMITATIONS AND RECOMMENDATIONS

Although this research adds value to the literature, it has some limitations. First, the study is cross-sectional; therefore, causal relationship could not be tested. Another limitation of the study is that it does not include the association between prescription drug misuse, job satisfaction and absenteeism. In addition, the study did not consider long-term absenteeism and long-term substance use.

Future research may include absence frequency and loss of employees' working day/hours, and shift workers. Future research could also include presenteeism information of permanent employees in a study involving substance consumption.

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CHAPTER 4

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The conclusion chapter addresses the main and specific objectives that were dealt with in Chapter 2 (Article 1) and Chapter 3 (Article 2) of the study. Furthermore, an interpretation will be given of the findings as discussed in Chapter 2 and Chapter 3. Limitations regarding the study will also be presented (cf par, 4.3), focussing on job satisfaction, employee absenteeism and substance use. Recommendations regarding the future in the industry and further research will be presented (cf par. 4.4) with the focus on job satisfaction, absenteeism and substance use.

4.1 Summary

Although absenteeism and substance consumption by employees is a crucial concern for the organisations (cf Chapter 2 and 3), limited national and international literature and research is available on absenteeism and substance consumption specifically in the energy sector and the power utility (cf Chapter 1, par. 1.1). Previous research regarding job satisfaction focused mainly on work attitude, employee performance, turnover and a few studies examined the relationship between job satisfaction and absenteeism of an employee. This study focused mainly on the relationship between substance use and workplace absenteeism and the moderating role job satisfaction plays in this relationship. Therefore, this study supplements the research and literature available on substance consumption, absenteeism and job satisfaction and aids in the understanding thereof from a power utility perspective (cf Chapter 1).

By reviewing the literature, it became evident that most employers have limited capacity to monitor and take action against unnecessary absenteeism effectively (cf Chapter 2). Yende (2005) determines that the fact that many organisations do not have sufficient strategies in place to manage this problem aggravates the challenge. It was argued that just like absenteeism, the cost of substance abuse and alcoholism holds a financial liability and, as a result, threatens job security and job satisfaction of employees. Employee absenteeism and high amounts of sick leave use have troubled organisations for many years due to the effect they have on employee productivity and the organisation's competitive edge (Roche, Pidd, Berry, & Harrison, 2008; Yende, 2005). Unscheduled absenteeism is associated with a decrease in employee productivity and the ability to meet targets. The literature reviewed indicates that low job satisfaction leads to high absenteeism (Josias, 2005). Similarly, Roelen, Koopmans, Notenbomer, and Groothoff (2008) confirm that job satisfaction is a significant indicator of sick leave usage in organisations.

Moreover, Slavitt, Reagin, and Finch (2009) explain in their article that substance use by employees results in higher rates of absenteeism, lower job productivity and performance, and an increase in safety and other risks.

4.2 Discussion of findings

In this section, the findings presented in Chapter 2 (Article 1) and Chapter 3 (Article 2) will be interpreted and discussed. Furthermore, these findings, in Chapter 2 and 3, will be compared to findings of previous studies, where applicable and new findings are indicated.

The specific objectives of Chapter 2 (Article 1) are answered below:

4.2.1 To conceptualise substance consumption, job satisfaction and absenteeism of employees and the relationship between these constructs from the literature (Chapter 2 – Article 1 par. Literature review)

Van Heerden et al. (2009) establishes that some of the factors that contribute to the escalation in substance use are expanding trade associations; feeble borders; severe poverty; hurried modernisation and decline of traditional and social relationships. She also found that drug abuse amongst teenagers is out of control and once dependence on a substance is established at an early age, this behaviour is carried into the workplace.

According to Chauke (2007), substance use is one of the key causes of absenteeism and drug usage in South Africa is already twice the world norm. Individuals resort to using various substances to relieve marital and other personal problems. Gilson (2007b) emphasises that abusers of sick leave are frequently also substance abusers. Employees who use alcohol are absent from work two to three times more frequently than other employees. South African studies indicate that the average percentage of alcohol abuse amongst employees is between 40 percent and 70 percent (Valencia & Gomez, 2005).

It is evident from this research study that substance misuse is a global concern among organisations. The improved economic possibilities in South Africa gave way to increasing alcohol consumption and opportunities for substance use (Smook, Ubbink, Ryke, & Strydom, 2014). There is a high prevalence of substance abuse among employees in South Africa, which is linked to high rates of absenteeism, low levels of production, wasted money, incidents and accidents, and poor conduct, although there is little statistical evidence to support this perception (Frone, 2003). Past research regarding substance use focused mainly on the amount of a

substance consumed at a given time (Bacharach, Bamberger, & Biron, 2010), but the problem (as identified in this study) is rather the frequency in which substances are consumed. Absenteeism and sick leave use have been on the increase in the power utility where the study was conducted since 2013 and high numbers of disciplinary cases related to substance use were reported since 2014.

The study determined that substance use has a significant relationship with employee absenteeism. Therefore, hypothesis 5 was accepted (cf Chapter 2, Article 1).

4.2.2 To determine what relationship exists between the levels of substance consumption and absenteeism of employees and the demographical information of the employees at the power utility in Mpumalanga (Chapter 2, Article 1)

Chapter 2 (Article 1) focused on individual variables, substance use and employee absenteeism. Hypothesis 1, which states that a relationship exists between substance use and employee absenteeism, is accepted because the statistical results indicate a positive correlation between these aspects. This finding also is supported by the literature reviewed (cf par Introduction).

Lee and Ross (2011) investigated the connotation between absenteeism and substance abuse among employees. Their study proved that employees who frequently use substances are more likely to misuse sick leave. The model of Goldberg and Waldman (2000) suggests that job satisfaction also plays a moderating role in absenteeism and substance use levels of employees. Individuals who experience decreased job satisfaction are more likely to withdraw, arrive late at work, take unnecessary and additional sick leave and misuse drugs and other substances (Frone & Windle, 1997; Saari & Judge, 2004). From her study, Van der Westhuizen (2006) establishes that in most cases high levels of absenteeism and sick leave hold mainly negative implications for the organisation and its employees and that some of the positive consequences are often short lived.

In Chapter 2 (Article 1), the hypotheses that state that male employees use more substances than female employees do and line managers use more substances than other employees were rejected due to no statistically significant data to support such hypotheses. However, it was determined that younger employees use more substances than older employees do. Therefore, hypothesis 3 was accepted (cf Chapter 2, Article 1).

The specific objectives of Chapter 3 (Article 2) are answered below:

Chapter 3 (Article 2) focused on how job satisfaction predicts absenteeism and substance consumption levels. It also investigated the moderating relationship between job satisfaction and substance use and employee absenteeism.

4.2.3 To determine if job satisfaction results in lower absenteeism and substance consumption levels (Chapter 3, Article 2).

The study confirms that job satisfaction has a moderating effect on the absenteeism and substance consumption levels of employees. For ease of understanding, this relationship is depicted as a conceptual model at the end of Chapter 3 (Article 2) (cf Figure 2, Chapter 3).

All hypotheses for Chapter 3 were accepted with support from statistical analysis and previous research. These findings reported that high levels of substance consumption are positively related to high levels of absenteeism, job satisfaction predicts low levels of absenteeism, job satisfaction predicts lower levels of frequency of substance consumption and substance use levels determine employee absenteeism.

4.2.4 To ascertain how well job satisfaction levels predict absenteeism of employees at the power utility.

The literature reviewed in this study explains that job satisfaction is one of the main triggers of absenteeism (Anderson, 2004; Hardy, Woods, & Wall, 2003; Luthans, 2011; Saari & Judge, 2004; Thirulogasundaram & Sahu, 2014).

From the statistical analysis conducted, it was confirmed that improved job satisfaction indeed results in lower levels of absenteeism (cf Chapter 3, H₂).

4.2.5 To ascertain how well job satisfaction levels predict substance consumption levels of the employees at the power utility.

Van Heerden et al. (2009) explains that there is limited information available on substance use and misuse in South Africa. From their research, there is no doubt that the substance abuse rate is on the increase in South Africa and that more research in this field is required.

The study confirmed that job satisfaction predicts the frequency of substance consumption, but not necessarily the quantity of substance consumption (cf Chapter 3 – Article 2, Table 2).

4.3 Limitations

A number of limitations were identified in this research study and should be interpreted in the context of these limitations. Although the participants were requested to complete the questionnaires as truthfully as possible, the use of self-report measures increases the possibility that employees may want to portray themselves in a positive light and, therefore, not report true responses. Edvardsen, Moan, Christophersen, and Gjerde (2015) found that when employees are requested to report on their levels of substance consumption or absenteeism, it is common for them to under-report or underestimate such feedback.

The study mainly focused on absenteeism and, although the idea of presenteeism was addressed, did not consider presenteeism. Moreover, the study did not compare the different types of substances but primarily focused on the quantity and frequency of substance use. In addition, this study took neither long-term absenteeism nor long-term substance consumption into consideration and patterns of absenteeism were not addressed.

At the time of the study there were very few Coloured individuals employed at the power utility due to a lack of qualified Coloured candidates applying for the vacancies in the area. Consequently, a proper comparison between all races could not be made.

The entire population selected did not complete the research questionnaires. The target population was 548 employees based at the power utility in Mpumalanga, but only 239 (44%) of the employees provided their consent and completed the questionnaires. Lack of participation was mainly from the employees in the operating, maintenance and security departments.

Despite the limitations as mentioned, this study highlights that there is a need for further research into the nature of substance use. Research needs to be performed in different industries and workplaces to be able to identify risk factors for employees who use substances.

4.4 Recommendations

The power utility in Mpumalanga where the research was conducted is likely to derive the greatest benefit from the results obtained by this research study, but the recommendations might also apply to other power utilities throughout South Africa. The results would also benefit the labour relations management field as a building block for future research.

The following recommendations for the industry and further research were made:

4.4.1 Recommendations for the power utility

Due to the unfavourable consequences of absenteeism and high substance consumption levels on the workplace it is essential for employers to dedicate sufficient time, resources and energy to deal with these problems (Smook, Ubbink, Ryke, & Strydom, 2014).

Alcoholism and drug addictions should be recognised as diseases, which require proper treatment. Such treatment should be supported by the organisation, on the condition that the involved employee cooperates and commits to focusing on improvement. According to the internal substance abuse procedure, substance abuse should be regarded as a health problem and not immediate cause for disciplinary action or dismissal (Stramrood, 2014). Although employee wellness strategies can be expensive, implementation thereof is to the benefit of the employees and the organisation. Wellness strategies produce a more competent and motivated workforce and increasing employee morale and, therefore, have a positive effect on the organisation's financial performance (Forbes, 2013). Moreover, such strategies have resulted in healthier employees and a reduction of high-risk substance consumption (Anderson, 2012).

In their study, Lee and Ross (2011) recommend that a substance abuse policy may increase absenteeism, but drug testing may reduce absenteeism. Mogorosi (2009) found that organisational policies should be put in place to promote employee performance using encouraging employees with substance consumption related problems to seek professional assistance and to indicate the penalties for not complying with the organisation's policy. A good code of conduct should set out how employees are expected to behave in the workplace in terms of disciplinary rules; be clear and employees should be aware of these rules; classify alcoholism and substance dependence as a mode of incapacity; and use dismissal as a last resort when all other avenues are exhausted (Mogorosi, 2009).

The procedure for managing leave (Jankowitz, 2017) discusses all the types of leave (annual leave, contingency leave, sick leave, occasional leave, service leave, unpaid leave, maternity leave and study leave) and sets out the leave conditions for each type of leave as per the company's conditions of service. However, it does not share the organisation's view on excessive sick leave levels or the acceptable sick leave use ratios. The researcher proposes that the procedure should highlight the number of sick leave days and sick leave incidents that are acceptable to the organisation to determine when excessive sick leave usage can be deemed as abuse. Furthermore, the procedure should focus on the possible strategies to manage the extensive use or abuse of sick leave and other forms of absenteeism. The employer has to

determine what would be an acceptable level of absenteeism and sick leave use, to be able to manage the situation effectively. The nature, length and frequency of sick leave can act as guidance on how to establish acceptable limits (Yende, 2005).

The time management procedure addresses the work schedule, substitution in case of an absence and report time. A negative time recording system is used to manage employees. This means that the system will see an employee as present unless an absence is captured and approved. The procedure does not stipulate the specific start, end and lunch times of employees, nor does it indicate the specific start and end time of a working day.

Job satisfaction of employees should be enhanced to improve the health and life expectancy of the employees. This will have a direct positive influence on the organisation because it will reduce health and recruitment costs (Josias, 2005). Therefore, it is essential to improve employee job satisfaction levels to maintain a positive organisational culture, optimise production, reduce substance use and decrease absenteeism. Rewarding good work attendance will motivate employees to maintain a good attendance record and refrain from abusing sick leave and other types of absenteeism (Robbins, Judge, Odendaal, & Roodt, 2016). Schlemmer (2009) explains that job satisfaction is related positively to task variety, the importance of tasks, autonomy, opportunities for progression, good work environment, remuneration, job security, utilisation of the employee's abilities, regular feedback and a good relationship with supervisors and colleagues.

Upon accepting the offer of employment, the employee declares that he or she will be present and fit for work to carry out his or her contractual duties. Employees who make themselves guilty of unauthorised absence from work or absence without acceptable reasons are subjected to breach of contract and the company disciplinary code, which may result in disciplinary action or dismissal in extreme cases. As a result of this, it is imperative to have proper attendance management structures in place and to monitor active employee attendance. Attendance management structures should refer to a proper policy, procedure and attendance register. When awareness of such structures is created the employees become aware that attendance is strictly monitored and that unlawful absence from work or absenteeism without proper reasons will not be tolerated (Claassen, 2016; Venter, 2003).

It can be agreed that managers and supervisors should take preventative action in avoiding high levels of sick leave use and, as a result, reduce potential employee misconduct. Some of the elements required for managing sick leave use are a supportive management team, good

employee relations, clear and readable policies, effective employee assistance programs and available education that assists supervisors to deal with absenteeism (Gilson, 2007a).

Furthermore, it is recommended that the employer implements routine screening to identify substance use and an appropriate and effective evidence-based prevention programme designed for the workplace.

4.4.2 Recommendations for future research

This study only focused on the employees at one power utility. Further research could compare the results of the bargaining unit employees against that of the managerial level employees. It would also be advisable to compare the results obtained from several power utilities, or at least power utilities in the same region.

Another recommendation for future research is to ascertain if the region where an employee is employed has an influence on the employee's level of substance use and absenteeism. More research is needed regarding different industries and employee demographical variables in South Africa. Future research should not only focus on absenteeism, but also include presenteeism levels in the research study. Additional research could focus on long-term absenteeism and substance consumption and the repercussions thereof, as well as patterns of absenteeism. When considering individual variables that have an influence on substance use, it would be beneficial to the field of study to explore the influence of genes on substance use habits.

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ANNEXURE 1



Tuesday, 17 October 2017

Dear Author

Your competitive paper "THE INFLUENCE OF SUBSTANCE USE ON ABSENTEEISM AMONGST THE EMPLOYEES AT THE POWER UTILITY IN MPUMALANGA" has been accepted by the conference **Research Committee** after their perusal of the referees' reports of the double-blind review process. Take note that the majority of papers are reviewed by one local and one international reviewer to ensure a quality review process.

Your presentation and research will be a key component to the success of this conference. We would like to thank you in advance for your contribution to the success of this event. Please take special note of the following: **Final competitive papers must be submitted together with a letter to the Editor of the Research Committee noting the corrections made, if any, by 15 August 2017.** Each correction or suggestion from both reviewers should be individually noted and all papers are to be language and technically edited as per the requirements in the Call for Papers.

Kindly register at your earliest convenience (early-bird registration: latest 31 May 2017) on the website: (www.ibc-conference.com) and take special note that **travel and accommodation arrangements are to be made by yourselves.** Registration for the conference starts on Sunday 24 September at 17:00. A welcoming cocktail function is held the same evening, while the official conference programme will start promptly at 08:00 on Monday 25 September 2017. You will have approximately **20 minutes** for your presentation plus **five minutes** for questions and discussion. The programme for the conference will be finalised early September and will be posted on the webpage before the conference (www.ibc-conference.net). Since the programme is tightly scheduled, we are asking speakers to stay within their allocated time.

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ANNEXURE 2



ETHICS APPROVAL CERTIFICATE OF STUDY

Based on approval by the Basic and Social Sciences Research Ethics Committee (BaSSREC) at the meeting held on 08/09/2016, the North-West University Institutional Research Ethics Regulatory Committee (NWU-IRERC) hereby approves your study as indicated below. This implies that the NWU-IRERC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Substance consumption and workplace absenteeism the moderating role of job satisfaction.			
Study Leader/Supervisor: Dr E Keyser			
Student: Ms JA van Jaarsveld			
Ethics number:	N W U - HS - 2 0 1 6 - 0 0 8 8		
	<small>Institution</small>	<small>Study Number</small>	<small>Year</small>
	<small>Subs.</small>	<small>Subs.</small>	<small>Auth.</small>
Application Type: -			
Commencement date: 2016-08-14	Expiry date: 2019-08-14	Risk:	Low

Special conditions of the approval (if applicable):

- Translation of the Informed consent document to the languages applicable to the study participants should be submitted to the BaSSREC (if applicable).
- Any research at governmental or private institutions, permission must still be obtained from relevant authorities and provided to the BaSSREC. Ethics approval is required BEFORE approval can be obtained from these authorities.

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The study leader (principle investigator) must report in the prescribed format to the NWU-IRERC via BaSSREC:
 - annually (or as otherwise requested) on the progress of the study, and upon completion of the project
 - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
 - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the proposal as stipulated in the application form. Would any changes to the proposal be deemed necessary during the course of the study, the study leader must apply for approval of these changes at the BaSSREC. Would there be deviated from the study proposal without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-IRERC via BaSSREC and new approval received before or on the expiry date.
- In the interest of ethical responsibility the NWU-IRERC and BaSSREC retains the right to:
 - request access to any information or data at any time during the course or after completion of the study;
 - to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process.
 - withdraw or postpone approval if:
 - any unethical principles or practices of the project are revealed or suspected,
 - it becomes apparent that any relevant information was withheld from the BaSSREC or that information has been false or misrepresented,
 - the required annual report and reporting of adverse events was not done timely and accurately,
 - new institutional rules, national legislation or international conventions deem it necessary.
- BaSSREC can be contacted for further information or any report templates via Charmaine.Lekorwane@nwu.ac.za or 018 210 3483.

The IRERC would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the IRERC or BaSSREC for any further enquiries or requests for assistance.

Yours sincerely

Prof LA Du Plessis
Digitally signed by
Prof LA Du Plessis
Date: 2016.11.22
16:08:05 +02'00'

Prof Linda du Plessis
Chair NWU Institutional Research Ethics Regulatory Committee (IRERC)