

**THE EFFECTIVENESS OF AN EVIDENCE-BASED WORKPLACE SUBSTANCE ABUSE
AND SUBSTANCE-RELATED HIV PREVENTION PROGRAMME WITHIN A SERVICE
INDUSTRY IN CAPE TOWN, SOUTH AFRICA**

Nadine Catherine Burnhams

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DECLARATION

I hereby state that the whole thesis, except where specifically indicated to the contrary in the text, is my own original work.

—

Signed by candidate

 —
Nadine Catherine Burnhams

03rd June 2013
Date

**Dedicated to my grandfather Gert Frederick Valentyne (now aged 92)
for believing in the value of education.**

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EFFECTIVENESS OF AN EVIDENCE-BASED WORKPLACE SUBSTANCE ABUSE AND SUBSTANCE-RELATED HIV PREVENTION PROGRAMME WITHIN SERVICE INDUSTRIES

Nadine Catherine Burnhams

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This study tested the effectiveness of a substance abuse and substance-related HIV prevention programme designed for use within a South African workplace setting. The overarching study design used in this study was a clustered RCT which employed seven distinct phases. Phase 1 of the study required determining the effectiveness of programmes to prevent substance abuse and substance-related HIV risks at the workplace through a systematic review. This was followed by the selection of a substance abuse and substance-related HIV prevention programme for implementation within a service industry in Cape Town, South Africa. Phase 2 employed a cross-sectional study design for collecting baseline data on substance abuse and substance-related HIV risks. Phase 3 of the study required the effective adaptation of the selected evidence-based substance abuse and substance-related HIV risks prevention programme for application in the workplace. This phase was followed by an outcomes evaluation on the implemented programme. Qualitative in-depth interviews with 8 participants, all senior management in the organization where study was conducted, concluded the study. For the clustered RCT, data were gathered from 325 employees who were employed in two divisions within a local municipality. The Team Awareness (TA) intervention, an eight hour evidence-based programme addressing behavioural risk among employees, was administered to 168 employees in the intervention arm. The 157 employees in the control arm received a one hour wellness talk. Self-report questionnaires were used to gather data on demographic variables, the work environment, policy and EAP service utilisation, substance abuse behaviours, co-worker substance abuse and substance-related HIV risks. Data was analysed using a random effects model accounting for clustering.

This study found that alcohol is the more commonly substance abused by persons in this sample. Of the sample surveyed, more than three quarters indicated abuse of alcohol, with

only a small proportion of employees reporting drug abuse. Close to a quarter had a positive CAGE score greater than the cut-off ≥ 2 , suggesting hazardous drinking patterns. A third of employees in our sample, who use alcohol, reported engaging in risky sexual practices. The results suggest that employees who received TA showed significant reductions in the risky use of alcohol from baseline to three month follow-up. TA was also found to increase willingness to use the EAP service and improve employee knowledge in relation to workplace substance abuse policies.

These findings highlight the need for evidence-based prevention programmes in workplace settings. It further highlights that application of one intervention programme, Team Awareness since TA was found to contribute to reductions in problem drinking and increases help-seeking behaviours. Additionally such prevention programmes create positive attitudes towards policies that regulate substance abuse within the workplace environment. The study makes useful recommendations for research practice and policy to help organisations address the burden of substance abuse.

CHAPTER 1

INTRODUCTION

A healthy and productive workforce is important for population health and the economic success of an organization (European Alcohol and Health Forum, 2011). Substance abuse^{1,2} presents a serious threat to the health and well-being of all people, the structure of all societies and companies, and the future of millions of people and their families (Mentor Foundation (UK), 2002). Globally, alcohol is the world's third largest risk factor for premature mortality, disability and loss of health and is the largest risk factor for death in the world (World Health Organisation, 2011). The Global Status Report on Health and Alcohol reported that the harmful use of alcohol results in 2.5 million deaths each year. An estimated 320,000 people between the ages of 15 and 29 die from alcohol-related causes, resulting in 9% of all deaths in that age group, the core of the working age population (World Health Organisation, 2011). Similarly the use of psychoactive substances causes significant health and social problems. The World Health Organisation (WHO) estimated that 0.7% of the global burden of disease in 2004 was due to cocaine and opioid use, with the social cost of illicit substance abuse being in the region of 2% of GDP in some countries. It is further estimated that globally at least 15.3 million persons have drug use disorders (World Health Organisation, 2011).

1.1. SUBSTANCE ABUSE IN THE WORKPLACE

Over the last two decades efforts to reduce and minimise the adverse impact that substance abuse has on the workplace has become a priority for many organisations, government agencies and other constituencies (Broome & Bennett, 2011; Elliott & Shelley, 2006; Webb, Shakeshaft, Sanson-Fisher, & Havard, 2009; World Health Organisation (WHO), 2010b). Although few empirical research studies have focused on substance abuse in the South

¹ For the purposes of this report and according to the American Psychiatric Association (*DSM-IV-TR*), the term substance abuse will be used to reflect both alcohol and drug abuse. Substance abuse refers to a maladaptive pattern of use of a substance which is not considered dependent. Substances associated with this term include alcohol, amphetamines, barbiturates, benzodiazepines, cocaine, methaqualone, and opioids (American Psychiatric Association, 2000). Diagnostic and statistical manual of mental disorders (Revised 4th ed.). Washington DC.

² Annexure A provides a comprehensive list of terms used in this thesis.

African workplace, it is estimated that at least seventy per cent of substance abusers are in the active workforce, with employers losing an estimated 86 working days a year due to absence related to substance abuse (Meneses, 2011). The prevalence of risky drinking differs between sectors, with rates as high as 25% in the mining industry (Pick et al., 2003; Wilson, 1999). A study done as far back as 1981 on a South African gold mine highlighted an increase in the consumption of alcohol (from 27,94 litres in 1976 to 34, 98 litres in 1981) among mine workers in a 4 year period (Kew, 1992). High levels of alcohol consumption are also seen in other sectors. For example, the lifetime consumption of alcohol findings from a 1993 study amongst farm workers in the deciduous fruit industry in the Western Cape reported average usual weekend (Friday–Sunday night) consumption in grams of pure alcohol to be equivalent to the consumption of six 750-ml bottles of wine or a 750-ml bottle of spirits (London, 2000). Similarly, a national school survey of teachers, undertaken by the Human Sciences Research Council (HSRC) in 2004, found that 15% of male and 0.7% of female teachers drank at high risk levels over a 30 day period (GE 8 on the AUDIT questionnaire). For male teachers in the Western Cape, the figure was 13.9% (Shisana, Peltzer, Zungu-Dirwayi, & Louw, 2005). Alcohol was also identified as a major problem at a large state hospital in the Western Cape. According to the Employee Assistance Programme (EAP) based at the hospital, substance abuse accounted for 11% -19% of referrals from 2003 to 2007. The hospital's EAP annual report highlighted substance abuse as one of the major psychosocial problems impacting on staff productivity (Steenkamp, 2008).

Although the data available remains scattered across work sectors, and cannot be generalised to all industry sectors, it is sufficient to conclude that substance abuse, and more particularly alcohol abuse, remains widespread among persons employed within both the formal and informal working sectors. This remains worrying, as alcohol is a major risk factor for both communicable and non-communicable diseases. It is also a major contributor to burden of disease (Parry, Patra, & Rehm, 2011) more particularly, in its contribution to the HIV/AIDS pandemic. The 2010 analysis of 67 risk factors and risk factor clusters for death and disability reported in the special issue of the Lancet (Lim et al., 2012) found that alcohol was the third leading risk factor for death and disability accounting for 5.5% of disability adjusted life years (DALYs) lost globally. This suggests 136 million years of life lost through dying early or living with an alcohol-related disability.

1.2. SUBSTANCE ABUSE AND HIV

The Sub-Saharan Africa (SSA) region remains the most heavily affected by HIV and AIDS. In 2009 it was estimated that approximately 310 000 persons died of an HIV infection in South Africa alone (United Nations Programme on HIV/AIDS (UNAIDS), 2010). It is further estimated that the HIV prevalence rates for persons between the ages of 15-49 in South Africa is 17.8% (Department of Health, 2010). The Western Cape Province has seen an increase in HIV prevalence, from 15.3% in 2007 to 16.9% in 2009 (Department of Health, 2010).

In Southern Africa the majority of HIV/AIDS transmissions occur through heterosexual contact. Although the evidence of a causal relationship between substances of abuse and the acquisition of HIV is still inconclusive at this time (Parry et al., 2011), numerous studies have demonstrated evidence of an association between substance abuse and sexual HIV risk behaviours among men, women and adolescents (Morojele et al., 2006; Parry & Pithey, 2006; Wechsberg, Luseno, Karg, et al., 2008). Although it is accepted that injection drug users (IDUs) are especially at risk for HIV infection, the role of non-injecting substances of abuse and sexual HIV risk behavior (Morojele et al., 2006; Parry, Pluddemann, Steyn, Bradshaw, Norman, et al., 2005) is probably more pertinent in this part of the world. For instance, recent studies found that two adult community populations studied in Cape Town were more likely to engage in risky sex practices, characterised as sex with multiple partners and unprotected sex (OR = 6.2, 95% CI = 3.1–12.3), if they were methamphetamine or alcohol users (Carney & Parry, 2008; Simbayi et al., 2004). Additionally a study of female commercial sex workers living near to single-sex hostels of mineworkers, found that 68.6% of sex workers and 28.6% of mineworkers were HIV positive, with mine workers reporting high levels of unprotected sex (sex without a condom) as well as heavy consumption of alcohol (Williams et al., 2003). It is therefore essential that prevention programmes designed to address risky substance abuse practices in the workplace and general communities include key components that simultaneously address risky sexual practices

since South Africa continues to bear a disproportionate share of the global HIV burden (United Nations Programme on HIV/AIDS (UNAIDS), 2010).

In the context of this study it is further important to delineate why the link between substance abuse and HIV is the key focus in this dissertation. Firstly, HIV is listed as the leading cause of death and is a major contributor to the burden of disease statistics in South Africa. This is according to the Burden of Disease Estimates (Bradshaw et al., 2003) and the summary of the 2007 cause of death data from Statistics South Africa. Secondly, there is evidence of a link between alcohol and HIV (Parry, Rehm, & Morojele, 2010) which leads to the thinking that substance abuse prevention programmes, with an additional focus on substance-related HIV, will help reduce the burden of HIV. This is of particular importance when considering not only HIV prevalence in South Africa, but also the data from Southern African firms that point to a HIV prevalence rate in the region of 12–24% among employees in South Africa (Mahajan, Colvin, Rudatsikira, & Ettl, 2007). Finally, a joint focus on substance abuse and substance-related HIV ultimately presents an example of how programmes can address multiple risk factors by targeting endpoints broader than just substance abuse outcomes.

1.3. IMPACTS OF SUBSTANCE ABUSE AND SUBSTANCE-RELATED HIV ON THE WORKPLACE

Substance abuse has been shown to impact negatively on organisations through excessive absenteeism, accidents and injury, poor workmanship, job errors, lost productivity and increased health costs. Statistics indicate that substance abuse potentially results in 500 million lost workdays each year. Substance abuse also has a substantial impact on employee health, employee safety as well as a negative impact on co-worker relationships (Bennett, Patterson, Reynolds, Wiitala, & Lehman, 2004; United Nations Office on Drugs and Crime (UNODC) India Office, 2010; World Health Organisation (WHO), 2010c). Separately to substance abuse, HIV/AIDS also has an impact on the workplace. Quantitative studies estimating the cost of HIV/AIDS in 14 large southern African companies, found that HIV/AIDS on average increased employment costs annually by at least 3% (Rosen et al., 2004).

1.4. CURRENT THEORETICAL PERSPECTIVES ON SUBSTANCE ABUSE IN THE WORKPLACE

The roots of workplace substance abuse theories are largely ingrained in occupational alcoholism literature, which was largely shaped by two main models, the disease model of alcoholism and by sociological models that emphasised the impact of socio-cultural influences on work groups (McCann, Harker Burnhams, Albertyn, & Bhoola, 2011; Sloboda & Bukoski, 2003). Schools of thought have however evolved to include a diverse range of theories for understanding the influences of substance abuse in the workplace. Risk and protective factors at an individual employee level, group processes level, organisational environment level and at community level all predispose individuals to substance abuse (Ames, Grube, & Moore, 2000; Bennett, Lehman, & Reynolds, 2000; Cook, Back, & Trudeau, 1996a). Current evidence-based substance abuse prevention models therefore address substance abuse at each of, or most of these levels, drawing heavily on social-cognitive, and organisational psychology theories (Bennett & Beaudin, 2000; Cook, Back, & Trudeau, 1996b). A review of literature suggests that workplace prevention programmes draw on multiple theories and are not grounded in one model (Sloboda & Bukoski, 2003). Although it can be argued that the use of multiple theories results in a lack of consistent theoretical explanations, the counter argument is that a focus on multiple domains allows for insight into all areas of interest and addresses substance abuse at multi-factorial levels (Martinko, Gundlach, & Douglas, 2002; Sloboda & Bukoski, 2003). This suggests the use of a more heterogeneous approach to addressing substance abuse, since work environments are always evolving. Either way, substance abuse prevention interventions are generally embedded in well-known and reputable socio-cognitive and organisational psychology theories that are concerned with the backgrounds and methods of change associated with substance-related behaviours (Cook et al., 1996b; McDonald, Roche, Durbridge, & Skinner, 2003; Sloboda & Bukoski, 2003).

1.5. PREVENTION INITIATIVES IN THE WORKPLACE

Employers have the responsibility of providing a healthy and safe work environment. This clause is recognised in the Occupational Health and Safety Legislation of several countries and is considered a basic human right (International Labour Organisation (ILO), 1996). Substance abuse problems can be serious and chronic in nature, presenting major risks to the health and safety of employees. It is therefore imperative that the prevention of substance abuse and substance-related HIV be addressed as part of a comprehensive strategy targeting substance abuse issues through the implementation of concrete, evidence-based prevention programmes that support the building of a safe working environment.

The traditional problem-oriented approach to substance abuse focused on providing treatment and rehabilitation to employees with substance-related problems. Contemporary research however suggests that the majority of employees are unlikely to be dependent on alcohol or drugs, but are more at risk of engaging in hazardous drinking (such as binge drinking) or harmful drug use practices (International Labour Office (ILO), 2003; McCann et al., 2011). By way of an example, a survey of 39 companies (n=2566) in Brazil found that 12.4 per cent of employees drank at risky levels. Only a small per cent of employees were found to have a substance-related disorder (United Nations Office on Drugs and Crime (UNODC), 2005). This suggests that more harm may be prevented through interventions that focus on the majority that are at risk of developing substance-related problems than through interventions that target the smaller proportion of dependent users (Loxley, Toumbourou, & Stockwell, 2003; United Nations Office on Drugs and Crime (UNODC), 2005). This paradox is based on the premise that in an effort to reduce global alcohol and drug consumption and to improve performance indicators, a prevention project must reach the entire workforce in an organisation. This does not suggest that dependent users fall outside the ambit of help (International Labour Office (ILO), 2003), on the contrary it merely constitutes a paradigm shift by suggesting that the bulk of resources be concentrated

around the higher percentage of employees who are 'at risk' of developing a substance-related disorder, so as to prevent the progression to not only a more serious diagnosis, but also to prevent substance abuse. Reducing the risk of substance abuse, through the introduction of prevention programmes, ultimately impacts positively on employers and all employees and is supported by a wide body of literature locally and internationally (Bennett et al., 2004; Cook & Schlenger, 2002; Steenkamp, 2008; Zungu & Setswe, 2007).

1.6. NEED FOR THIS STUDY

There is widespread agreement on the need for substance abuse workplace prevention programmes globally (Broome & Bennett, 2011; Cook & Schlenger, 2002; Webb et al., 2009) and in Africa (World Health Organisation (WHO), 2010a). It has further become imperative that prevention/awareness programmes begin addressing substance abuse and HIV not as separate problems but interconnected problems (Parry & Pithey, 2006). South African companies have had to develop organised and formalised responses in dealing with the HIV epidemic and the increase of substance abuse among employees. Over the last decade and a half HIV/AIDS prevention programmes have become an integral part of companies, mostly those in the formal sectors, predominantly focusing on voluntary counseling and testing, care, support and treatment, provision of antiretrovirals (ARVs) and awareness campaigns, which do not include substance abuse awareness (Mahajan et al., 2007). Traditionally, HIV/AIDS and substance abuse prevention have been rolled out separately with the link between substance abuse and risky sexual behaviours not always clearly identified, often remaining unclear .

This research study aimed to test the effectiveness of a programme for substance abuse and substance-related HIV prevention in a service company operating in Cape Town. More specifically, this study had the following objectives:

1. To review the effectiveness of existing programmes to prevent substance abuse and substance-related HIV risks at the workplace.

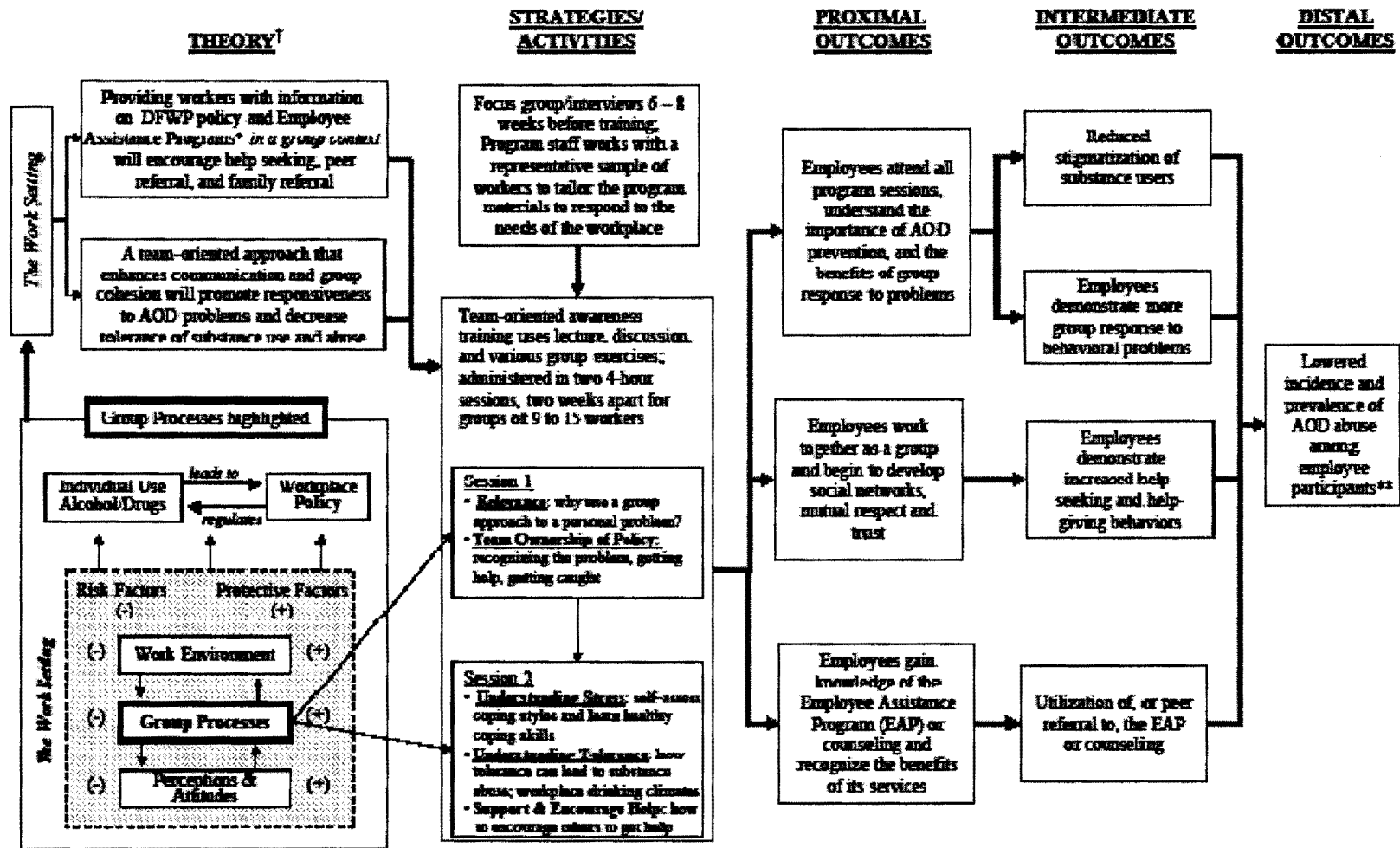
2. To describe the extent of substance abuse and substance-related HIV risk behaviours among employees working in safety-sensitive jobs within two divisions of a safety and security department of a local municipality in the Western Cape.
3. To describe the effective adaptation of an evidence-based substance abuse and substance-related HIV risks prevention programme used in other countries for application in the workplace in South Africa.
4. To evaluate the effectiveness of the substance abuse and substance-related HIV risks prevention programme implemented among employees working in safety-sensitive jobs within two divisions of a safety and security department of a local municipality in the Western Cape.
5. To estimate summary measures of organizational absenteeism levels and overall work productivity and to compare at pre-intervention and post-intervention levels.
6. To explore and describe perceptions of company management regarding the operational aspects of the prevention programme.

1.7. LOGIC MODEL

Logic models are used in evaluation research to make an explicit statement of the activities that will bring about change and the results a researcher expects to see in the target population (Rossi et al., 2004). For the purposes of connecting the objectives of the research study to its various components, the figure below provides an outline on how the different objectives in this dissertation are linked (see figure 1 below). The logic model depicted below suggests that an understanding of the workplace setting in relation to potential risk factors for developing substance abuse problems is essential. This is linked to objective two of this dissertation which aimed to describe the nature and extent of the problem in the selected workplace. The logic model goes on to highlight the importance of the adaptation of the intervention programme to different settings prior to its implementation. Objective

three therefore aimed to meet this criterion by describing the adaptation process followed in this research study. Finally, the logic model links the theory described and implementation processes to the outcomes anticipated. Objective four therefore aimed to evaluate the effectiveness of the intervention that was implemented.

Team Awareness - Joel Bennett



† The studies that led to the Team Awareness conceptual model are discussed in: Demett, J.D., Lehman, W.E.K., Reynolds, G.S., (2000) Team awareness for workplace substance abuse prevention: The empirical and conceptual development of a training program. *Prevention Science*, 1 (3), 157-172.

* EAP is a behavioral health referral and counseling service that includes screening and initial counseling for drug and alcohol use

Figure 1: Logic Model Depicting the programme theory and expected outcomes of the intervention

1.8. SUMMARY OF CHAPTERS

Chapter 2 describes the methods used in this study. Chapter 3 considers the effectiveness of programmes to prevent substance abuse and substance-related HIV risks at the workplace through a systematic review. Chapter 4 describes the effective adaptation of an evidence-based substance abuse and substance-related HIV risks prevention programme for application in the workplace. In chapter 5, the results for the baseline findings of the clustered randomised control trial study are presented and interpreted. This chapter focuses on the extent of substance abuse and substance-related HIV risk behaviours among employees as described above. In chapter 6, the results of the clustered randomised control trial, used to test the effectiveness of the selected prevention programme on the target population, is presented. Chapter 7 reviews the perceptions of management regarding the operational aspects of the implemented prevention programme. Finally, chapter 8 discusses the findings of the baseline assessment; the clustered randomised control trial and the findings from the qualitative study. This final chapter also discusses recommendations, study limitations, policy issues and implications and will emphasise future research needs.

CHAPTER 2

RESEARCH METHODOLOGY

2.1. STUDY AIMS AND OBJECTIVES

This research study aimed to test the effectiveness of a programme for substance abuse and substance-related HIV prevention in a service company operating in Cape Town, South Africa. More specifically, this study had the following objectives:

OBJECTIVE 1:

To describe the extent of substance abuse and substance-related HIV risk behaviours among employees working in safety-sensitive jobs within two divisions of a safety and security department of a local municipality in the Western Cape³, South Africa.

Sub-Objectives:

The descriptive objectives for this study were as follows:

- a) To describe substance abuse by age and gender.
- b) To estimate the prevalence of problematic⁴ substance abuse among employees.
- c) To estimate the prevalence of going to work with a hangover or calling in sick because of a hangover, among employees.
- d) To describe employee perceptions of the on-site Employee Assistance Programme and the in-house substance abuse policy.
- e) To describe employee perceptions of co-worker substance abuse.
- f) To describe employee perceptions of organisational wellness, job satisfaction, stress and perceived job-related risks at work.

³ The participating municipality will wishes to remain anonymous. In this dissertation, the name of the municipality will not be provided and the participating divisions will be described as MP and MF.

⁴ In the context of this thesis the researcher uses the term 'problematic substance use' as a reference to two key variables specifically, i) number of days in past 30 days having more than five drinks and ii) a positive CAGE score.

- g) To describe employee perceptions of stigma towards persons with a substance-related problem.
- h) To estimate the type and prevalence of substance-related HIV risk behaviours among employees.

The analytical objectives for this study were as follows:

- i) To determine if risk factors such as the experience of individual stress, group stress, group cohesion, perceived risk at work, job satisfaction or a climate favourable to drinking contribute to problematic substance use.
- j) To investigate the relationship of absenteeism and presenteeism to problematic substance use among employees.

OBJECTIVE 2:

To systematically review the workplace effectiveness of programmes to prevent substance abuse and substance-related HIV risks.

OBJECTIVE 3:

To describe the effective adaptation of an evidence-based substance abuse and substance-related HIV risks prevention programme for application in the workplace.

Sub-Objectives:

- 3a) To describe the process of adapting a substance abuse and substance-related HIV risk prevention programme.
- 3b) To describe opinions and attitudes of key informants (managers, EAP/EWP staff and union representatives) on the suitability of implementing the adapted intervention programme in the two sectors.

OBJECTIVE 4:

To evaluate the effectiveness of the substance abuse and substance-related HIV risk prevention programme among employees working in safety-sensitive jobs within two divisions of a safety and security department of a local municipality in the Western Cape.

Sub-Objectives:

4a) To compare at pre –intervention, immediate post-intervention and 3 month post intervention, the effects of the prevention intervention on:

- i. Employee knowledge of substance abuse.
- ii. Employee patterns/frequencies of problematic substance use and associated substance-related HIV risk behaviours.
- iii. Employee attitudes towards substance abuse and HIV/AIDS policies in the workplace, and the Employee Assistance/Wellness Programme.
- iv. Employees experience of individual and group stress, group cohesion, drinking climates, stigma and consequences of substance abuse.
- v. Employee help-seeking attitudes and behaviour.

4b) To estimate summary measures of organisational absenteeism levels and overall work productivity and to compare this at pre-intervention (six months prior the intervention) and post-intervention levels (six months after the intervention).

4c) To explore and describe perceptions of organisation management regarding the operational aspects of the prevention programme.

Specific Evaluation Study Hypotheses:

Problematic Substance use⁵

The study hypothesised that participation in the intervention:

⁵ Changes to the substance abuse variables will be calculated from Time 1 to Time 3 considering that the variables asked about past 30 day use of alcohol. Post-intervention data collection occurred 2 weeks after baseline assessment and should therefore not be used to make a determination since this time assessment falls within the 30 day mark.

Hypothesis 1: Would have reduced past 30 day risky alcohol abuse (≥ 5 drinks on one occasion) among the employees studied from Time 1 – Time 3.

Hypothesis 2: Would be positively associated with a reduction in last 6 months going to work with a hangover from Time1 –Time 3.

Hypothesis 3: Would be positively associated with a reduction in last 6 months call in sick episodes because of hangover from Time1 — Time 3.

Hypothesis 4: Would have resulted in a reduction of problematic substance use as calculated by the CAGE scores from Time – Time 3.

Substance abuse policy knowledge

For those employees who received the intervention we hypothesised the following:

Hypothesis 5: Employee knowledge and understanding regarding the existence of an substance abuse policy would have improved from Time1 – Time 2.

Hypothesis 6: Employees understanding of the content of the substance abuse policy would have improved from Time 1 - Time 2 and sustained at Time 3.

EAP utilisation

We hypothesised that participation in the intervention would have:

Hypothesis 9: Increased willingness to use EAP for a personal or work-related problem would have improved from Time1 – Time 2 and sustained at Time 3.

Hypothesis 10: Would be positively associated with employees recommending the use of the EAP to their fellow employees from Time1 – Time 2 and sustained at Time 3.

Drinking Climate

We hypothesised that participation in the intervention:

Hypothesis 8: Would be associated with a positive change in team drinking climate from Time 1 – Time 2 – Time 3.

Group cohesion and stress

We hypothesised that participation in the intervention would have:

Hypothesis 11: Increased group cohesion among employees from Time1 – Time 2 – Time 3.

Hypothesis 12: Improved employees coping abilities through a reduction in the experience of individual stress from Time1 – Time 2 – Time 3.

Tolerance and Responsiveness

We hypothesised that participation in the intervention would have resulted in the following changes from Time 1 – Time 2 – Time 3:

Hypothesis 7: Reduced tolerance of co-worker substance abuse thus improving responsiveness in encouraging and reporting substance abuse problems from Time1 – Time 2, with the effect sustained at Time 3.

Substance-related HIV risks

Hypothesis 13: We hypothesise that employee exposure to multiple HIV risks would have reduced from Time1 – Time 2 – Time 3.

OPERATIONAL OBJECTIVES:

1. To use the review to identify a proposed intervention for use in the research study.
2. To adapt an intervention suitable for implementation in the workplace.
3. To provide recommendations to managers regarding the effectiveness of the workplace substance abuse prevention programmes.
4. To provide recommendations for future research in the area of workplace prevention.

2.2. STUDY DESIGN

The main study design employed in this research was a clustered randomised control trial (RCT). Although the overarching design is that of a RCT, the research study employed seven

distinct phases which are reflected in figure 1 of this chapter. To facilitate ease of read, this chapter will be laid out as follows:

- The researcher firstly provides a description of the main study design and reasons for employing a clustered randomised control trial.
- This is followed by a description of the trial population and sampling procedures; project staff; data collection procedures; pilot study and ethical considerations as it pertains to the whole study, since this would also be relevant to phases 2-7 of the research study (see figure 1 below).
- This is followed by a complete description of the methods used for each of the phases employed in this study, and more specifically phases 1, 2, 3, 4 and 7. In-depth descriptions on methods used in phases 1 (systematic review) and 3 (adaptation of programme) are further described in chapters 3 and 4.
- The chapter concludes with a description of the quantitative and qualitative data analysis techniques employed in phase 2, phases 4-6 and phase 7.

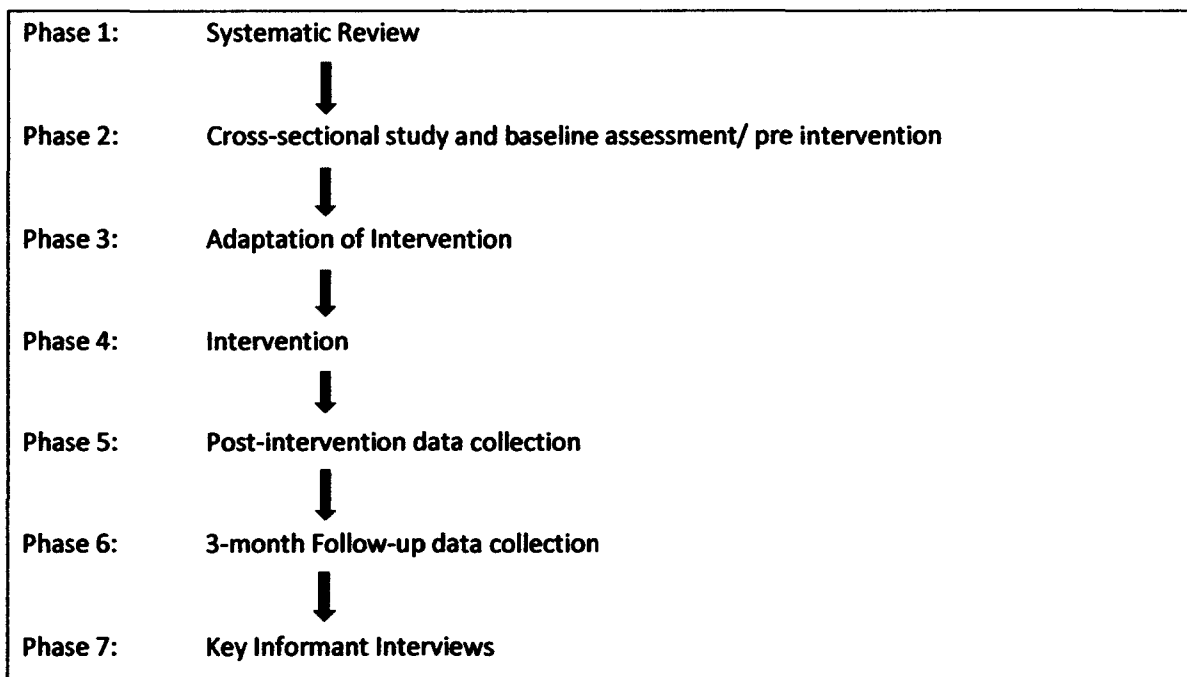


Figure 2: Schematic Design indicating research study phases

2.2.1. RATIONALE FOR USING A CLUSTERED RANDOMISED CONTROL TRIAL

Clustered RCTs are a specific type of scientific experiment, often defined as the preferred design for impact studies or outcomes evaluations (Bless, Higson-Smith, & Kagee, 2006; Rossi, Lipsey, & Freeman, 2004; Schulz, Altman, Moher, & Group, 2010) and are often used to test the efficacy and/or effectiveness of various types of health care interventions within a given sample. Although clustered RCTs are advantageous on a number of levels they are also susceptible to a number of biases and are possibly difficult to implement at a practical level. Despite this, this design was decided upon as it is considered the only feasible approach for evaluating the effectiveness of programmes aimed at health promotion, such as the workplace substance abuse and substance-related HIV prevention (Lindquist, 1940; Puffer, Torgerson, & Watson, 2005), since the delivery of the intervention is likely to affect not only the individual participating in the study but also others that form part of the workgroup or cluster. Clustered RCTs are therefore also often used to avoid contamination (Elley, Chondros, & Kerse, 2004) and are suited to programmes where individual allocation to a programme may not be possible and a programme requires group randomization to a programme (Campbell, Mollison, Steen, Grimshaw, & Eccles, 2000; Elley et al., 2004). It is for these reasons that the decision to conduct a clustered RCT was made, since this study made use of group randomisation and the intervention itself sought to bring about changes not only to the individual but also the workgroup.

In this study the clusters were team or workgroups, with 325 participants from 2 divisions (divisions MF and MP) of a safety and security department at a local municipality (average workforce within the safety and security department was (3686 employees).

2.2.2. THE TRIAL POPULATION & SAMPLING PROCEDURES

This section describes the trial population and sampling procedures for the entire study. Following this section the researcher describes the study design employed for each subsequent phase of the study.

2.2.2.1. Selection of companies for participation in the research study

Obtaining a workplace to participate in this research study proved to be a long and difficult process. The initial intention was to randomly select four companies to participate from a list of organisations known to provide EAP/EWP services to various companies in Cape Town. This list was generated from the researcher's contact lists and work relations. Initially four major companies were selected and approached by the researcher and the EWP gatekeepers. These companies were presented with a formal letter, outlining the study intentions, benefits, risks and other practical implications to participating. The researcher also met with each of these companies as a follow-up to the letter. Although companies indicated an interest in the topic and highlighted the seriousness of the problem, they were not willing to participate and cited difficulties around the length of the programme, relevancy to their area of work (the perception that substance abuse was not a major problem in their sector of work) and lack of senior management approval as reasons. One company, that did indicate a serious interest, could not participate as the company had placed a national moratorium on all internal surveys.

The company that ultimately participated in this study was self-identified by a contact person employed within the EAP division of the said company. The contact person agreed to participate and acted as a gatekeeper, facilitating entry into the safety and security department and the two safety sensitive divisions within the larger department. This research study was therefore implemented in two divisions within a safety and security department of a large municipality.

2.2.2.2. Criteria for company selection and inclusion:

The initial four companies were selected along the criteria below, and the company (including the two divisions) that ultimately participated in the actual study also met the following criteria:

The company should have a workforce greater than 200 employees to meet the sampling criteria.

- The company should be located within the Western Cape.

- The company should have an on/off site Employee Assistance/Wellness Programme (EAP/EWP) and should be open to participating in the intervention study. The existence of an EAP programme is essential as it is crucial in meeting two of the objectives of this study (Objectives 1c and 3b).
- The company and its employees should be conversant in English as the intervention will be conducted in English although the questionnaire will be translated into the vernacular.
- There should be stability in the workforce, in other words a 75% or more retention over a one year period. This is to ensure the likelihood that all employees who participate in initial data collection will be there for follow-up.
- The company should have a formalized substance abuse and HIV/AIDS policy.
- The project should be endorsed by Management, Human Resources and the trade unions.

The selected company met all the criteria.

2.2.2.3. Description of study population and participants

The selected intervention programme was implemented within two divisions (safety sensitive occupations, named MF and MP in the remainder of the thesis) of one department of a local government municipality. At the time that this study was conducted, the safety and security division employed 3686 workers. Safety sensitive positions are defined as positions where the employee's responsibilities may impact on the health and safety of themselves, co-workers and/or the general public (Focus Workplace, 2012). The number of employees in each of the divisions varied (MF employs 1349 workers and MP employs 615 workers). Employee workgroups were randomly selected from each of these divisions to complete a pen and paper self-report questionnaire and to attend a programme intervention. Intact workgroups were randomly chosen to participate rather than designating individuals from within departments to minimize employee concerns about participation. These intact workgroups within each division were identified and randomly assigned to the intervention arm which consisted of an eight hour team training session, or to the control arm which consisted of a one hour wellness session. Responses were

anonymous, and no individual data were given to management. A total of 20 workgroups were selected for the intervention and 20 for the control arm of the study.

2.2.2.4. Sample size and statistical power calculations

The intervention 'Team Awareness' (TA) which was selected (see chapter 3) and subsequently adapted a) for a local audience (South African context) and b) to reflect participating company culture, company structure and policy (see chapter 4), was implemented in the two safety and security divisions of the local municipality. Focus groups were conducted with a selected group of employees (MP and MF employees) prior to TA implementation to adapt the materials to the specific company focused on in this research. The need to adapt TA to the South African context was based on the understanding that TA as implemented in the USA may not be entirely implementable as it stands in the South African context. People's perceptions are generally affected by socio-cultural and other environmental and contextual aspects. There is currently no benchmark for anticipated substance abuse prevalence in this sample. Therefore it may not be appropriate to use an effect size that has been established in another country to determine the effects of an adapted intervention when the contexts are completely different and when we are in fact evaluating changes to human behaviour and attitudes. In the absence of prevalence data for our sample, sample size calculation was based on the following:

- The power for a cluster randomized control trials, such as proposed here, depends on two sample sizes (groups and individuals within groups), the intra-class correlation (ICC), and the effect size (Murray, 1998; Raudenbush & Bryk, 2002). We anticipated a sample of 40 workgroups (with approximately 10 employees in each) for the field trial. Of these, 20 were randomised to receive the proposed programme (intervention arm), and 20 continued with standard procedures (control arm) and received a one hour discussion on wellness. We estimated the ICCs to be .03, such that 3% of total variability in outcomes reflected workgroup differences. Based on this assumption, one hundred and ninety employees were needed in each cohort ($n = 380$). The sample size calculated is comparable for testing TA programme effects when compared to other existing studies. With $ICC = .03$, the design yields an 80% power for detecting an effect size of $d = 0.10$.

2.2.2.5. Selection and randomization of research participants

All employees within the two divisions (and on meeting the inclusion criteria) were eligible for participation in the study. Criteria for inclusion in the research study were: a) employees should all be white collar workers; b) all employees participating in the study should be conversant in English, and c) should work within a team context. Participants had to meet all three criteria for inclusion.

Workgroups within each of these two safety sensitive divisions were randomised to either a control or experimental condition using simple systematic randomisation. Randomisation within of the two divisions took the following format:

- Safety-Sensitive MFs

Safety - Sensitive MF (MFs) employee workgroups all work within the boundaries of the Cape Town Metropole. MF workgroups are distributed at various stations across the Metropole. There are 30 MF stations in the metropole. Individual MF stations consisted of at least 3 workgroups/platoons all working shifts. The randomisation process for the MFs was layered. The first layer consisted of taking the population size of 30 stations and assigning a number 1-30 to each station. From this layer, 20 stations were randomly selected to be part of the research study. The second layer included randomising each of the 20 stations to a control (n=10) or intervention condition (n=10). Once completed, a third layer of randomisation took place; one of the three workgroups within each of the 20 randomly selected stations was selected to participate in the study (see Table 1). The researcher and a statistician from the Biostatistics department of the Medical Research Council of South Africa facilitated the randomisation process.

Table 1: Sampling Structure MFs

Stations	Study group	Workgroups/Platoon
2	CONTROL	1
4	INTERVENTION	2
7	INTERVENTION	3
9	INTERVENTION	2
10	INTERVENTION	3

12	CONTROL	3
16	CONTROL	2
17	INTERVENTION	2
18	CONTROL	1
19	INTERVENTION	1
20	CONTROL	1
21	INTERVENTION	1
22	INTERVENTION	3
24	CONTROL	1
25	CONTROL	1
26	INTERVENTION	2
27	INTERVENTION	2
28	CONTROL	2
29	CONTROL	2
30	CONTROL	2

- **Safety-sensitive (MPs)**

The division structures of safety-sensitive MPs were different to that of MFs. Although, MPs are also situated across the metropole their main offices or headquarters are centralised to 4 areas of the metropole (North, South, East and West). Within each of the four metropole main offices, are teams which service a certain geographical area. For instance, area South would be expected to service 2-4 geographical areas (for example, Mitchells Plain and Philippi East, the Landsdowne Corridor, Athlone and Mannenberg). Considering that one of the criteria for participation was being a member of a workgroup and that the sample size was set at 190 and 20 groups, all workers within these larger areas were eligible for participation. This resulted in the researcher randomising the areas into a control or intervention condition (North, South, East and West). The tossing of a coin was used to randomise the areas, and areas North and South became the control conditions and areas East and West became the intervention conditions.

2.2.2.6. Procedures followed to accessing the research environment

To encourage participation and prevent high attrition levels due to fears of participating such as being labelled as problematic workers, the intervention study was marketed through the field manager and researcher visiting participating MF and MP stations explaining the purpose of the study to senior management, senior personnel and supervisors. Participants were provided with information (see Annexure B) explaining the purpose of the research study and great emphasis was made on the importance of confidentiality. A detailed outline on the intervention steps, types of questions that will be asked in the questionnaire, the length of time of the study and the length of time it will take to answer the questionnaire, how the results will be published as well as other ethical questions relating to the study were also relayed. During these briefing sessions, participants were also informed that each participant would be required to give informed consent prior to participating in the study.

Entry into the research environment was facilitated through various gatekeepers such as the Employee Assistance/Wellness service providers and the substance abuse coordinator for the safety and security department of the metropole. Endorsement for the research study was obtained through the head of EWP services at the municipality who indicated initial interest. The head of EWP consulted the Human Resources division (HR) at the municipality. HR and EWP drafted a report for the Executive Management Team of the municipality, requesting approval for the study. Approval was obtained, and the safety and security department was approached for participation.

2.2.3. PROJECT STAFF

Field workers

To meet the objectives of the research study, the researcher made use of a field manager (Ms. E. Nel), field workers and interventionists. Field workers had the responsibility of administering and collecting the questionnaires at pre- and post- intervention level and again at the three month follow-up. The field workers used in this study were all occupational health nursing sisters, all employed with a company providing EAP/EWP

services and therefore were familiar with the work sector. Although field workers were not experienced in conducting field work and in administering research questionnaires, they received a week long training from the project manager on the research study, including research ethics, best practices and validity and reliability issues in data collection.

Interventionists

Six interventionists were recruited from a non-governmental organization that renders substance abuse treatment and prevention related services. All interventionists held a BA degree in the Social Sciences and were experienced in conducting workshops and training in group sessions. Interventionists were taken through a strict, peer-reviewed learning process which took place over a period of 6 months (an in-depth description is provided in chapter 4 of this dissertation, since interventionist training formed part of the TA fidelity process).

Field Manager

Ms. E. Nel was employed to help the researcher oversee the entire data collection process, and ensure the successful implementation of the interventions. In the main, the field manager oversaw the field workers and the interventionists, providing regular report backs to the researcher. In respect of qualifications, the project manager holds a post-graduate degree in nursing, and has a wealth of experience in managing research field operations for a national research council.

2.3. DATA COLLECTION

Data were collected across the three data collection windows (pre-intervention, post-intervention and at a three-month follow-up phase). Employees signed a consent form (see Annexure C). To maximize confidentiality the following procedure was followed:

2.3.1. PRE-INTERVENTION DATA COLLECTION

Each participant was provided with a large envelope (with a unique coloured number on it – e.g. MF001) which contained:

- a) A questionnaire with the same unique number (e.g. MF001) on the front.
- b) A post-interview checklist (which was attached to the questionnaire with the same unique number e.g. MF001).
- c) 2 Consent Forms (no numbers on this forms)
- d) 1 rectangular envelope (no numbers)
- e) 2 A5 envelopes (no numbers)
- f) 1 resource pamphlet
- g) 1 wallet card.

Participants were able to select an envelope in English or in a language of their choice. On top of the envelope was the unique random number. The participant opened the envelope and completed the 2 consent forms inside and handed one back to the fieldworker in an A5 envelope. He/she then took the rectangular envelope and wrote his/her individual unique identifying number on the inside of this envelope on first data collection date (this number became the unique identifying number of the employee participant and was entered on all the subsequent questionnaires).

Participants were asked to write their name and contact details on the outside of the rectangular envelope (remembering the number is concealed on the inside of the envelope), seal it, and sign across the seal/flap of the envelope (serving as a 'seal'). This rectangular envelope was handed to the fieldworker and securely stored and handed out to employee participants for the second round at post-intervention data collection.

2.3.2. POST-INTERVENTION DATA COLLECTION:

At time 2, and on receiving their rectangular envelope (the envelope with their name on which was taken for safe keeping until time 2 data collection), each participant received a second rectangular envelope and were asked to transfer their unique number to the inside of the new rectangular envelope. Again participants wrote their name and contact details on the outside of the second envelope, which was handed out at the third round of data collection. The envelope with the new name was handed back to the fieldworker. Completed questionnaires were stored in a safe environment. The first rectangular

envelope was destroyed. The unique number was then transferred onto the questionnaire and the post interview checklist at time 2.

2.3.3. FOLLOW-UP DATA COLLECTION

Three-month follow-up data collection: On receiving their rectangular envelope (with their name on) for third data collection, each participant used the unique number on the inside of the second envelope which was transferred onto the questionnaire and the post interview checklist.

2.3.4. SELF-COMPLETED WORKPLACE QUESTIONNAIRE

Data were collected by means of an 18 page self-completed structured Workplace Questionnaire (WQ) (See Annexure D) that examines a) individual and group worker stress and levels of cohesion; b) psychoactive substance consumption; c) performance indicators such as absences, delays and accidents in the workplace as well as a section on d) opinions about co-worker substance abuse, e) opinions about health and life quality; and f) worker sexual risk behaviours. The Workplace Questionnaire (WQ) used existing standard questionnaires, where these were available. Where existing scales were not available, the researcher constructed measures of these variables (substance related knowledge and substance-related consequences). For these constructed measures, item choice was guided by the available literature.

The WQ was used for collecting baseline information and was also used to determine changes to the outcomes measured. To ensure that participants understood certain terminology that was used in the questionnaire, the field workers made use of display charts to explain the meaning of a 'standard' drink (participant perceptions of what a standard drink is may vary), for example one participant may think a standard drink is 750ml of beer (a quart). The different names of drugs and aliases were also provided in a poster format, to make sure participants correctly identify their substance of choice; for example, listing that methamphetamine is another word for 'tik'.

The following sub-sections describe the measures that comprised the WQ. These measures, and the domains they relate to, are reflected in Table 2.

- ***Biographical Information***

The self-completed questionnaire included a section providing information on relevant biographical data such as employee age (in years), marital status (whether single, married, divorced, widowed, living together or separated) and their gender (male or female). Other information such as length of employment (coded as: working less than 6 months, 6 months to 1 year, 1-5 years, 5-10 years, 10-15 years or more than 15 years) and education levels (participants were asked to give the highest grade passed or the highest tertiary qualification obtained) was also included in the questionnaire.

- ***The World Health Organisation (WHO) Health and Work Performance Questionnaire (HPQ)***

The World Health Organisation (WHO) Health and Work Performance Questionnaire (HPQ) is a self-report questionnaire designed to estimate the burden of health problems in terms of reduced work performance, sickness absenteeism, and absenteeism and work related accidents and injuries (Kessler et al., 2003). For the purposes of this study, the researcher abstracted the absenteeism and presenteeism questions from the full HPQ, as it was not necessary to use the entire questionnaire in this study (Kessler et al., 2003).

Absenteesim

The HPQ (see Section B of Annexure D) uses eight questions to assess absenteeism. The first two questions relate to days and hours worked within the last 28 day period as well as hours missed on sickness absence days. Four questions in the HPQ asks participants about the number of hours missed on workdays (for example, coming in late or going home early) since a considerable proportion of missed work time occurs on days when people come to work. One question in the HPQ addresses the extra hours of work (for example, coming in early, going home late, and working on days off). This question is included in the HPQ because it is thought that many workers put in extra hours to make up for days that they

were sick and not at work. All scores are coded as actual hours worked or missed. The HPQ assessment of absenteeism is reported as having good validity and good concordance (Pearson correlations of 0.61 to 0.81 for 7-day recall and 0.66 to 0.71 for 4-week (28-day) recall of hours worked, days worked, hours missed, and days missed (Kessler et al., 2003). The HPQ has not been validated in South Africa.

Absolute absenteeism is calculated by multiplying the number of hours expected to work in a 7 day period by four and subtracting the total from hours worked altogether in a month (28 days). High scores indicate high amounts of absenteeism and lower bound scores (-) indicate working more than expected.

Presenteeism

Absolute presenteeism in the HPQ is measured with a series of Likert scale questions (coded 0 = 'poor performance' and 10 = 'top performance'). The questions asked to participants relate to how often, during their working hours, they had decreases in quantity and quality of work, for example 'On a scale from 0 to 10 where 0 is the worst job performance anyone could have at your job and 10 is the performance of a top worker, how would you rate the usual performance of most workers in a job similar to yours?' and 'Using the same 0-to-10 scale, how would you rate your usual job performance over the past year or two?'

Presenteeism is a measurement of self-reported performance in relation to possible performance. A higher score indicates a lower amount of lost performance. The measurement for presenteeism makes use of simple scoring which is, according to the developers, the only scoring currently available in the absence of objective benchmark data for assessing presenteesim. Absolute presenteeism has a lower bound of zero which indicates a total lack of performance and upper bound of 100 which indicates high levels of performance (Kessler et al., 2003).

- ***The Texas Christian University (TCU) Workplace Measures Questionnaire (Lehman, Bennett and Reynolds, 2000):***

Measures and scales used in Annexure D – Sections B, C, D, E, F, G of the questionnaire were developed by the TCU, Fort Worth, Texas (Lehman, Bennett, & Reynolds, 2000). The TCU scales have all been validated for use on municipal workers in the USA. The coefficient alpha's for each of the scales is based on samples of municipal employees (n's range from 587 to 909) surveyed as part of the TCU Workplace Project (Lehman et al., 2000) in the USA.

Some of the items taken from the TCU Workplace Measures Questionnaire are stand-alone indicators and were not designed as part of a scale. The TCU scale scores are generally calculated by taking the average score of all the items included in the scale. Items that are followed by "[R]" were reverse scored before the scale score was calculated. Although the TCU scales are psychometrically supported and referenced in journal articles, reliability analysis using the sample of employees in this study (n=325) was conducted. The results of these analyses are reported on in chapter 5 of this dissertation and methods used are described in the data analysis section of this chapter. The researcher will however provide a brief description of the scales used, and the results of reliability analysis as reported on by the developers, Lehman and colleagues (Lehman et al., 2000).

Individual Stress

Variables for individual stress were measured on a scale 1 = 'strongly disagree' to 5 = 'strongly agree'. The 5 items asked employees questions on different dimensions of stress (See section B13 of Annexure D) for a description of the scale items. Reliability tests for this scale was based on a samples of municipal employees (Cronbach Alpha is $\alpha = 0.87$). The average of items was used as a composite measure of the experience of individual stress.

Group Stress

The variable group stress assessed several dimensions of stress experienced in the group. Group stress was measured on a 5-item scale, ranging from 1= 'strongly disagree' to = 5 'strongly agree' (see Section B14 of Annexure D or scale questions). Internal reliability as

measured by Cronbach's alpha was equal to 0.77. The average of items was used as a composite measure of the experience of group stress.

Group cohesion

A 5-item measure of group cohesion was used (see Section B15 of Annexure D). Employees rated each item along the same 5-point scale 1 = 'strongly disagree' to 5 = 'strongly agree'. The average of the items was used as a composite measure of perceived group cohesiveness, which had good internal consistency as measured with Cronbach's Alpha ($\alpha = 0.74$).

Organisational Wellness

Organisational wellness was assessed using a 10-item Likert scale (see Section B16 of Annexure D) with, 1 = 'strongly disagree' to 5 = 'strongly agree'. The average of the items was used as a composite measure of organisational wellness. Internal reliability as measured by Cronbach's alpha was $\alpha = 0.75$.

Job Satisfaction

Employee job satisfaction was measured using a 6-item scale (see Section B17 of Annexure D), with 1 = 'highly dissatisfied' and 6 = 'highly satisfied'. Reliability tests measured by Cronbach's alpha scored ($\alpha = 0.91$). The average of the items was used a composite measure for job satisfaction.

Perceived Risk at Work

The scale 'Perceived Risk' at work is a 5-item scale measuring degree of risk that leads to lost productivity and/or safety problems (see Section B18 of Annexure D). Items were measured on the following 1 = 'no risk' to 5 = 'great risk'. Reliability statistics confirmed a Cronbach alpha of ($\alpha = 0.89$). The 5 items were averaged to represent an estimate of employees perceptions on perceived risk at work

Norm of tolerance and responsiveness

Tolerance and responsiveness included four items and asked how likely a co-worker would ignore and cover for a fellow employee with a drinking or drug problem (see Section G5 of

Annexure D). Employees responded to these items along a 4-point scale coded, 1 = 'very unlikely', 2 = 'likely'; 3 = 'likely' and 4 = 'very likely'. A reliability score of 0.61 was attained using Cronbach's alpha.

Policy Attitudes: Fairness and Effectiveness

Attitudes toward policy were measured using 6 items, with two questions requiring reverse scoring (see Section C7 of Annexure D). Employees responded to these items along a 6-point scale, ranging from strongly disagree to strongly agree, with 'in between' as a midpoint, and 'I don't know' as item 6. The 6 items were averaged for each employee to represent an estimate of their attitudes toward policy.

Workplace drinking climate

Drinking norms were assessed by the frequency of four co-worker behaviours: i) drinking together off the job, ii) talking at work about drinking, iii) getting together just to get drunk, and iv) is alcohol available at work-related parties (see Section G4 of Annexure D). Responses ranged from 1 = 'never' to 5 = 'almost always'. Reliability, as measured by Cronbach's alpha was 0.67.

Consequences of co-worker drinking or drug use

The scale consequences of co-worker drinking or drug use is a 5-item scale (see Section G6 of Annexure D). Responses are on a Likert scale ranging from 1 = 'never' to 5 = 'almost always', and sometimes as an in-between measure. A reliability score measured with Cronbach Alpha found a score of $\alpha = .92$.

Stigma perceptions

Stigma was assessed by five items asking if co-workers would think negatively of an employee who has a substance abuse problem or of an employee who received help for a substance abuse problem (see Section G7 of Annexure D). Responses ranged from 1 = 'strongly disagree' to 5 = 'strongly agree'. Reliability scores reports a cronbach alpha score of $\alpha = .76$.

Formal sanctions

Formal sanctions were assessed using a 5 item scale (see Section G8 of Annexure D). This measure asked about the most common reactions of persons in authority toward an employee who uses or is suspected of using alcohol or drugs. Responses for each item on the scale ranged from 1 = 'do nothing'; 2 = 'verbal warning'; 3 = 'written warning'; 4 = 'suspend', and 5 = 'fire'. Reliability as measured by Cronbach's alpha was α 0.88. The 5 items were averaged for each employee to represent an estimate of their attitudes toward policy.

Policy Knowledge

Knowledge of the existence of an alcohol and drug use policy (see Section C of Annexure D) was assessed with a 1 = 'Yes' or 2 = 'I don't know' question: 'At your place of work do you have an alcohol and drug use policy?'. Degree of knowledge was assessed with one question, "How knowledgeable are you about the substance abuse policy at your job" with responses coded: 1 = 'not at all', or 2 = 'a little' or 3 = 'a lot' or 4 = 'very much'. Participants were also asked whether they had the freedom to speak to a supervisor about a substance abuse problem without fear of being punished, with responses coded 0 = 'No' or 1 = 'Yes'.

Knowing how to get help

Participant awareness of the referral process was assessed with a 0 = 'No' or 1 = 'Yes' to the question "Do you personally know how to get help from your workplace for yourself or someone else that may have a problem?" (Reynolds & Lehman, 2003).

Employee Assistance Programme (EAP) Utilisation

Thirteen items (see Section C8 of Annexure D) were used to assess knowledge on the existence of a workplace EAP service, willingness to access such a service, previous service utilisation and satisfaction with the services provided as well as participant willingness to recommend the EAP to a co-worker. Responses to single items varied from 'Yes-No' answers to Likert scale responses coded 1 = 'very dissatisfied', 2 = 'somewhat dissatisfied', 3 = 'neither satisfied nor dissatisfied', 4 = 'somewhat satisfied', 5 = 'very satisfied' and 6 = 'prefer not to answer' (Bennett & Lehman, 1997). The items do not form part of a scale.

(Pluddemann, Myers, & Parry, 2008). The section containing the alcohol consumption questions consisted of 16 questions (see Section E of Annexure D). Items E4 – E12 were Likert scales coded 0 = 'never' to 4 = 'daily or almost daily' and reflected on certain drinking behaviours, whilst two questions (E2 and E3) required the actual number of days on which participants had used alcohol. These questions are important since E3 elicits a response on how many days in the past 30 days the participant had more than five drinks. A further three questions asked participants about the availability of treatment services, random testing at work and whether participants thought they had a problem. These three questions were coded 0 = 'no' and 1 = 'yes'.

- **CAGE**

CAGE is a self-report four-item test with questions on Cutting down, Annoyance at criticism, Guilty feelings and use of Eye-openers) (see Annexure D). The CAGE is used in screening for possible alcoholism. On the CAGE, two or more positive replies suggest hazardous use of alcohol (Buchsbaum, Buchanan, Centor, Schnoll, & Lawton, 1991). The CAGE test has been validated for use in South Africa. The results of a study by Claassen (Claassen, 1999) on the benefits of CAGE as a screening tool for alcoholism in a closed rural South African community found that a positive score on CAGE (characterised by two or more affirmative replies) showed a sensitivity of 100% and a specificity of 78% for alcohol dependence.

- **Drug use**

Components of the drug use consumption scale were drawn from Lehman et al., (2002), HIV prevention intervention in bars and shebeens in Tshwane, South Africa - Baseline Assessment and as well items from the SACENDU data collection tool described in (Pluddemann et al., 2008). Similar to the alcohol consumption questions, this section consists of 18 questions (see section F of Annexure) all measuring participant drug use. Participants were asked to indicate which drugs have been used in the past 12 months and to further indicate frequency of use (coded as 1 = daily; 2 = 2-6 days per week; 3 = once per week or less and 4 = not in past month). Items F5 – F14 (Annexure D section F) are Likert scales coded 0 = 'Never' to 4 = 'daily or almost daily' and reflect on certain drug use

behaviours. A further three questions asked participants about the availability of treatment services, random testing at work and whether participants thought they had a problem. These three questions were coded 0 = 'no' and 1 = 'yes'.

- ***Substance-related consequences***

A set of eight questions were developed by the researcher to assess possible consequences associated with substance abuse. Responses were coded 0 = 'No' and 1 = 'Yes' (see Section H of Annexure D). Responses were tallied with a high score reflecting high amount of consequences associated with substance abuse. This set of eight questions has not been validated psychometrically. The questionnaire was however piloted, but no changes to the questionnaire were required. Examples of questions are "has use of substances ever caused you to get arrested?" and "has use of substances ever caused you to have money problems?".

- ***Substance-related HIV risks***

Seven substance-related HIV risk questions were taken out of a 25 question questionnaire (see Section I of Annexure D) developed by (Rawson, Washton, Domier, & Reiber, 2002) specifically questioning sexual thoughts, feelings and behaviours that patients recollected from the last time they were under the influence of a single psychoactive agent. Rawson's instrument is an outgrowth of an intake questionnaire developed for cocaine-dependent outpatients (Rawson et al., 2002). Although the items in the questionnaire (and those selected for use in the workplace measures) are of relevance and have good face validity, the psychometric properties of the instrument have not been formally established (Rawson et al., 2002). Participants were asked to give a 0 = 'No' or 1 = 'Yes' response to the seven questions.

Table 2. Domains and measures comprising the Workplace Questionnaire (WQ) used in this study

Domain	Variables	Scale and indicators
Work Environment	Absolute Absenteeism and Absolute Presenteeism	WHO Health Performance Questionnaire (HPQ). Hours expected to work; hours actually worked, days of sick, days on vacation, days coming in to work early or leaving late. Total number of hours worked in 28 days.
	Individual Stress	TCU individual stress scale is a Likert type scale specifically designed for the workplace and asks questions around individual participants' experience of stress.
	Group Stress	TCU group stress scale – Likert type scale.
	Organisational Wellness	TCU organizational wellness scale - Likert scale
	Group Cohesion	TCU measure for group cohesion - Likert scale
	Job Satisfaction	TCU measure to assess employee job satisfaction - Likert scale
	Perceived risk at work	TCU measure to assess employees perceptions around exposure to risks at work- Likert scale
Workplace Substance Abuse Policy & Employee Assistance Programme (EAP) utilisation	Policy knowledge	Single item questions on knowledge related to the in-house policy on substance abuse.
	Policy attitudes	TCU measure policy fairness and effectiveness - Likert scale
	EAP	Single item questions assessing EAP utilisation and perceptions of services rendered
Substance-related knowledge	Knowledge on substance abuse	Single item scales. Scale developed by the researcher. Assesses employee knowledge in relation to general substance abuse.
Alcohol consumption	Abstainers versus drinkers	
	Any use of alcohol	Number of days in past 30 day any alcohol use
	Binge drinking	Drinking behaviours – days having more than five drinks in the past 30 days.
	Problematic/hazardous alcohol use (CAGE)	Problematic and hazardous drinking
	Working with a hangover	Likelihood of going to work with a hangover
	Sickness and hangovers	Likelihood of calling in sick because of a hangover
	Self-perception of drinking problem	Participants asked if they thought they had a drinking problem
	Availability of Treatment	Extent to which alcohol treatment available
Drug Use	Problematic drug use	Types of drugs, frequency and age of first use.
	Working with a hangover	Likelihood of going to work with a hangover
	Sickness and hangovers	Likelihood of calling in sick because of a hangover
Co-worker	Co-worker drinking	Three single items assessing whether participants

substance abuse		have ever known of a co-worker who came to work under the influence (UTI) of either alcohol or drugs, our used at work.
	Co-worker drug use	Two single items asking participants about the sale of drugs at work and workers using drugs at work or before work.
	Response to a co-workers a drinking or drug use	Five single items assessing participant response to a co-worker who comes to work UTI.
	Workplace Drinking Climate	TCU Workplace Drinking Climate Scale - Likert scale
	Norm of Tolerance and Responsiveness	TCU Enabling Scale - Likert scale
	Consequences of co-worker drinking or drug use	TCU Co-worker Consequences Scales - Likert scale
	Stigma Perceptions	TCU Stigma Consciousness Scale - Likert scale
	Formal Sanctions (punishment)	TCU Sanctions Scale - used to determine the common reaction of persons in authority to substance abuse. - Likert scale
Substance-related consequences	Consequences related to substance abuse	Eight single item questions on various consequences associated with substance abuse
Substance-related HIV risks	Sexual behaviours that increase exposure to HIV	Nine single item questions assessing whether use of primary substance of abuse is associated with various sexual risk behaviours.

2.3.5. PILOT STUDY

The research instrument was piloted before the study was implemented. A pilot study is defined as the pre-testing of a measuring instrument consisting of “trying it out on a small number of persons having characteristics similar to those of the target group of respondents” (De Vos et al., 1998). Huysamen in De Vos et al. (1998:179) views the purpose of the pilot study as an investigation of the “feasibility of the planned project and to bring deficiencies in the measurement procedure to the fore”. The instrument was presented to 20 persons within a different service company, similar to that of the testing population. This company was recruited by the researcher for the express purpose of piloting the instrument. The company selected 20 employees, and the 20 employees participated in the pilot phase. A short group interview was conducted with employees on completion of the questionnaire to assess issues like ease of use or user-friendliness, comfort with answering the questions and length of questionnaire. No adjustments were required on the data collection method or process following the pilot.

Ethical approval for the pilot study was obtained with the main study.

2.4. ETHICAL CONSIDERATIONS/HUMAN SUBJECTS

This study was approved by the Ethics Committee of University of Cape Town (433/2008) and was conducted according to the ethical guidelines and principles of the International Declaration of Helsinki (2008) (See Annexure E).

2.4.1. INFORMED CONSENT, ANONYMITY AND CONFIDENTIALITY

Written informed consent (see Annexure C) to participate in the study was obtained from all participants. The consent forms were translated into Afrikaans and Xhosa. In addition, and throughout this project, all information collected on individual participants in the study as well as the key informants was kept confidential.

Confidentiality of employee personal details was ensured by the issuing of unique identifying numbers (see section 2.3). To address reluctances to attending and participating in the study for fear of reprisals such as being labeled as a problematic worker (Bennett & Lehman, 2001), information sessions were held which explained the purpose of the research study. Information on the importance of confidentiality, the type of questions that were to be asked, the length of the research study, the time it takes to answer the questionnaire, how the results will be published as well as any other ethical questions relating to the study was explained to participants in detail. Field workers and interventionists were thoroughly trained by the researcher before data collection processes commenced.

2.4.2. BENEFITS TO PARTICIPANTS

Even though the research study held no physical or emotional threat to the participants, the participants were thoroughly informed about the potential impact of the research. Participants were assured of their freedom to withdraw from the study at anytime, and were also informed that they could decline from answering any sensitive questions without

having to provide reasons for doing so. Participants were informed of their right to ask any questions pertaining to the research study or their participation.

Although no financial incentives were given for study participation, participation in the study had some benefits for those individuals who desire help for their substance abuse problems. Participants indicating the existence of a problem were referred to a resource list with contact details of specialised substance abuse service providers. Participation in the study also contributed to enhancing participant knowledge on substance abuse and substance-related HIV.

2.5. DESCRIPTION OF STUDY PHASES

2.5.1. PHASE 1: SYSTEMATIC REVIEW

In order to facilitate the choice of an intervention for implementation and subsequent evaluation, a systematic review was conducted. The systematic review was conducted with the view of identifying literature on evidence-based substance abuse and substance-related HIV prevention suited to the workplace, with the aim of selecting one intervention for implementation. A systematic review is usually employed to synthesise a large number of studies. Systematic reviews are useful to social and behavioural health scientists because they link and correlate huge amounts of information in order to identify beneficial or harmful interventions (Setswe, 2006). In the context of this research study it was important to implement an intervention that has previously been shown to have significant changes on substance abuse and substance-related HIV outcomes. The method followed is described in detail in chapter 3 of this thesis.

2.5.2. PHASE 2: CROSS SECTIONAL STUDY (BASELINE ASSESSMENT)

In order to meet objective 1 outlined on page 18 the study followed a cross-sectional study design. Cross-sectional studies are used to gather information on a population at a single point in time (Bless et al., 2006). This design was chosen as it is well suited to gaining

insights into the extent of substance abuse among people employed in safety sensitive jobs within the safety and security department of a local municipality in the Western Cape.

The cross-sectional study design forms the baseline for the clustered randomised control trial. Sampling procedures, data collection and questionnaire descriptions were discussed under sections (2.2.1) considering that sample size determination and data collection applies to both the clustered RCT and the baseline assessment.

2.5.3. PHASE 3: CUSTOMISATION OF MATERIALS

The third phase of the study involved the adaptation of the intervention 'Team Awareness' for implementation. When adapting evidence-based interventions for new settings and contexts, literature suggests that certain guidelines be followed to ensure an appropriate degree of programme fidelity is adhered to. Adaptation refers to the process of customising a programme model to make it more suitable for a population, without compromising or deleting any core component of the programme. (United Nations Office for Drug Control and Crime Prevention UNODC, 2002). It is universally understood and accepted that prevention programmes can only be effective when culturally appropriate (Tsarouk et al., 2007, United Nations Office for Drug Control and Crime Prevention UNODC, 2002, European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), 2010, Botvin, 2004). Adaptation is therefore a vital and essential process when evidence-based prevention programmes are selected and implemented in different contexts. The evidence regarding minimal adaptations (such as language translation, ethnically and racially correct pictures, culturally appropriate welcomes, songs, stories, dances, exercises, examples and videos) indicates that these minimal adaptations are necessary, and do not affect the core elements of the programme, and therefore maintains the effectiveness of the original programme.

The intervention selected for this study was adapted following universal guidelines for adapting programmes. The researcher also received guidance from the programme developer who assisted in the process. The steps used to adapt 'Team Awareness' are described in chapter 4, where the whole adaptation process is discussed.

2.5.4. PHASE 4-6: CLUSTERED RANDOMIZED CONTROL TRIAL

2.5.4.1. Design

Phases 4-6 employed a clustered randomised control trial which provided for the opportunity to test the selected intervention called Team Awareness (see chapter 4 for a description) in two divisions within a local municipality in the Western Cape Province.

2.5.4.2. Allocation of Intervention

The questionnaire that was used to conduct the evaluation (pre - and post - intervention with a three month follow-up) was a self-report questionnaire (WQ) administered to the two service divisions within the local municipality setting at the three time periods described. Employees within each of the service departments (MF and MP) were randomised to a control or intervention arm using simple systematic randomisation as described in section 2.2.1.5 of this chapter. Data collected at Time 1 serves as the baseline data (collected to meet objective 1, described in section 2.1) and was collected before the intervention was given to the experimental arm. The questionnaire (an identical version) was re-administered to the control and intervention participants immediately after the intervention was completed (Time 2) and again at three month follow-up (Time 3). Using the notational system employed by Campbell & Stanley (1966) in Bukoski (1991) and Bless et al (2006) the researcher explains the allocation of the interventions in the figure below.

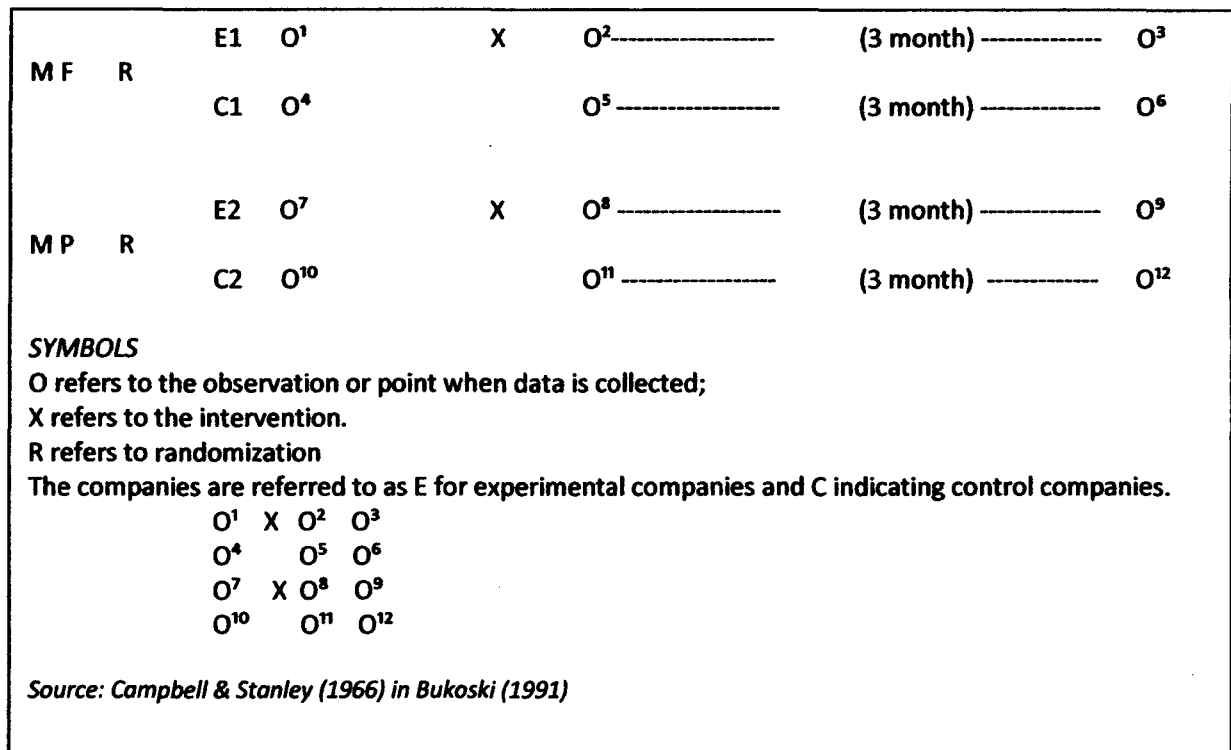


Figure 3: Notational system to describe allocation of intervention

As noted in Figure 3, employee workgroups were randomly assigned to an intervention or control arm in each of the divisions participating in the study. The intervention was only administered to participants in the intervention arm of the study and employees in the control arm received a one hour wellness talk unrelated to the intervention that was received by those employees in the intervention arm. Therefore the main comparisons in the study are between those in the intervention groups and the control groups.

The intervention was administered to employees in groups of 5-15. Although, having smaller groups allows for interactive teaching methods and enhances participation, the workgroups of the divisions also fitted this group size. Conducting the intervention in small groups as opposed to all the employees in the division further ensured minimal disruption. In other words, 5 -15 employees were called to participate at a time and afterwards returned to their designated workplaces. The workload during their absence was covered by a different work group. Logistical issues of the intervention roll-out were discussed with company representatives ensuring that the research study did not unduly disrupt service delivery.

The flow chart below depicted below provides a further outline of the randomisation process.

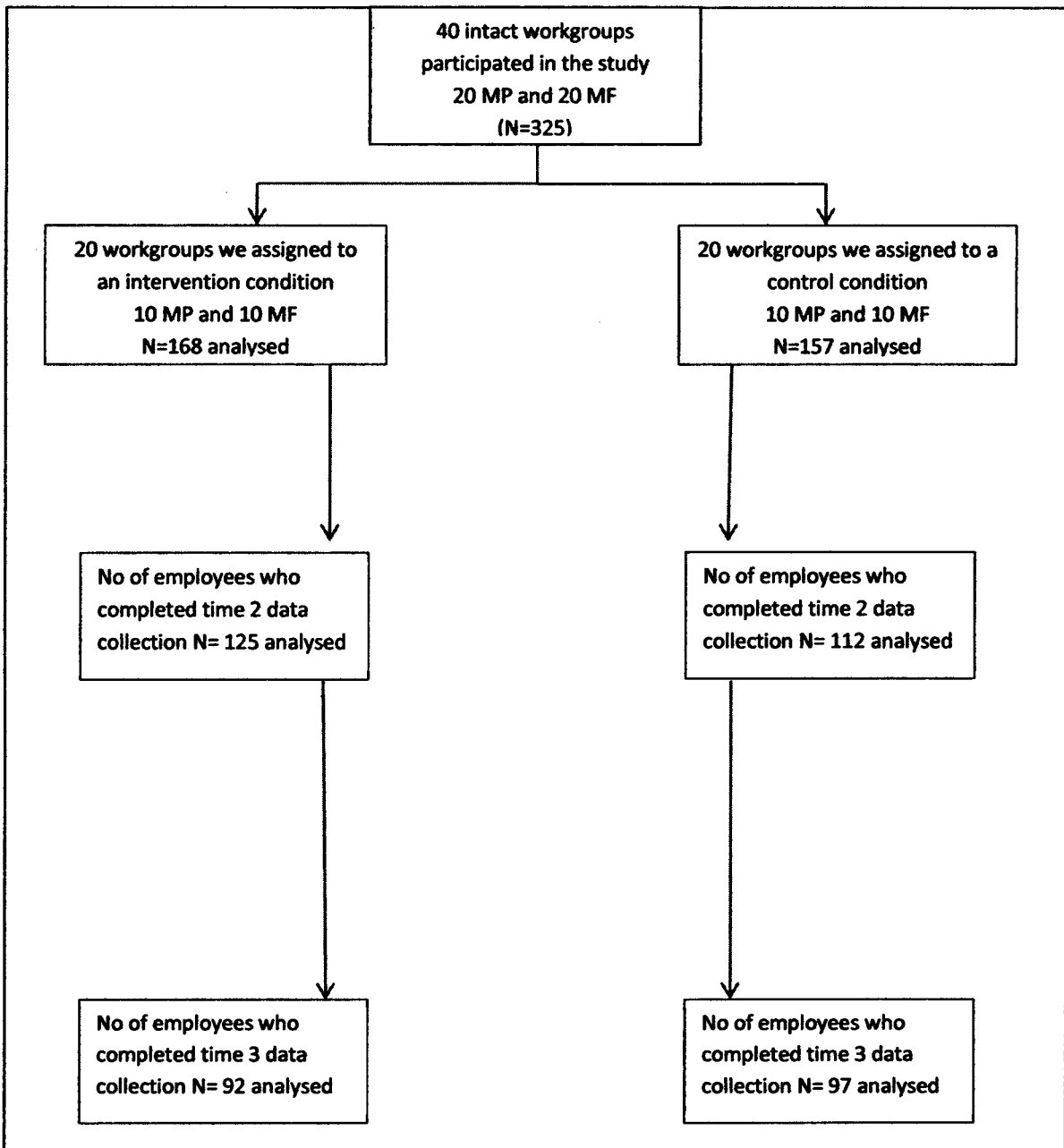


Figure 4: Flowchart describing randomisation process

2.5.4.3. Blinding

Although the participants were blinded considering that they were not aware of whether they were assigned to an intervention or control condition, they were aware that they were assigned to either the one hour session or an eight hour session. The interventionists and

project staff were however not blinded. This was not possible as the interventionists worked mainly with those in the experimental arm of the study, and other staff members were only involved with participants in the control arm. The interventionists and fieldworkers adhered strictly to study protocols in respect of engaging with participants. Senior management of the divisions were also not blinded since we had to request time off, in advance, for participating employees and this occurred after assignment to interventions.

2.5.4.4. Allocation Concealment

The participating divisions (MF and MP) were identified prior to the randomisation process. Participating divisions were asked to provide their shift rosters (MF) and work orders (MP). As indicated, clusters (workgroups) were randomised to a control or intervention arm. Participating divisions were not privy to the randomisation process but were informed after the randomisation process about which groups would need to be away from work for possibly 6 hours (factoring in travelling time) and which workgroups would be away for a shorter period of time (controls). Whole divisions participated in the study, and randomisation of clusters into a control or intervention arm was done by the researcher and a biostatistician.

2.5.4.5. Fidelity Elements

In order to achieve desired aims, evidence-based prevention education programmes need to be implemented as intended (Stead, Stradling, MacNeil, MacKintosh, & Minty, 2007). The measurement of 'fidelity of implementation' is therefore an essential part of programme evaluation. This study followed the guidelines as set out by the Team Awareness programme developer (Bennett, Bartholomew, Reynolds, & Lehman, 2002). To implement the training with high fidelity, we followed the following format:

- As part of the customisation process but also as part of ensuring programme fidelity, the researcher followed a process of collecting information pertaining to current health efforts at the workplace. The researcher had to familiarise herself, with the local municipality substance abuse policies, the EAP, health benefits, and any related safety or behavioral health trainings. This information was used to adapt Module two of the programme but also followed a key principal in the Team Awareness

programme adaptation, that of collecting and using local information to modify certain elements of the programme.

- A second step was to gain the inputs from employees in focus groups. Participants in the focus groups did not form part of the study trial. Focus groups were held and conducted over a period of one month. The following groups were convened:
 - A women only group - MP
 - A mixed group (woman, men, different races)- MP
 - A mixed group - MF
 - A women group - MF

Focus groups: The focus group sessions were semi-structured group sessions; using an interview guide (see Annexure F). Participants of the focus groups also had to complete a consent form (See Annexure G) to participate in the focus group discussions.

- Finally, the core of Team Awareness training lies in providing all six modules of the employee training. In keeping with the original design, we followed the guidelines as set out below.
 - The eight hour training sessions were broken into two four-hour sessions as stipulated in the guidelines. Providing the full training in one full day is contrary to the fidelity guidelines. Each session was limited to no more than four hours.
 - Information about policy and the EAP were consulted and incorporated into focus group discussions and programme material. As put forward in the guidelines, training was built upon policy knowledge that employees already have.
 - Provide options and incentives for homework to be done between session one and session two.
 - Provide healthy snacks (nuts, fruit, juice) when possible.
 - Provide ample breaks during sessions.
- In addition to the above:
 - All intervention training materials and registers of participant attendance were kept.

- Records kept reflected the degree of adherence to the programme components and content prescribed by the intervention as well as the quality of programme delivery in respect of using the methods specified.
- Records on participant exposure to the intervention in respect of the number of lessons delivered were kept.
- Any adaptations or modifications and reasons for modifications made to the intervention were recorded for evaluation purposes.
- The interventionists submitted detailed summary reports on the process of each session, focusing on levels of group cohesion and levels of engagement and interaction.
- Interventionists were also asked to handover to the researcher all newsprint writings prepared during the sessions.
- Random recordings of intervention sessions were made for quality purposes, and the researcher attended some sessions.

2.5.5. PHASE 7: QUALITATIVE COMPONENT KEY INFORMANT INTERVIEWS

To achieve sub-objective 4b (see page 20): to explore and describe perceptions of company management regarding the operational aspects of the prevention programme' the researcher made use of qualitative data collection. According to Yegidis and Weinbach (Yegidis & Weinbach, 2002), a qualitative approach seeks to understand and interpret experiences from the perspective of those who have first-hand experience of the phenomenon. Qualitative research therefore suggests tapping into the meaning of individual or group experiences attributed to a particular phenomenon (De Vos, 1998). This suggests that qualitative research is best suited to projects or topics that require further exploration that cannot be attained through quantitative research processes (De Vos, 1998).

The purpose of this objective of the study was to gain insight into how the local municipality perceived the Team Awareness intervention in respect of programme costs, time, and effectiveness. Examining these contextual influences on the feasibility of prevention programmes in an organisational context is important considering the fact that the implementation of evidence-based prevention programmes and prevention research in a

workplace presents numerous methodological challenges (Hersch, Cook, Deitz, & Trudeau, 2000). More specifically literature has documented challenges around employee and employer reluctance to participate in a programme that specifically addresses the issue of substance abuse at a universal level, as well as concerns rising from conflicts between the objectives of the research and programme as well as the operational imperatives of the workplace (Cook et al., 1996b; Hersch et al., 2000).

2.5.5.1. Population and Sampling Procedure

Participants for the Key Informant Interviews (KIIs) were recruited through a form of non-probability sampling termed purposive sampling, in which decisions concerning the individuals to be included in the sample are taken by the researcher, and are often based on criteria which may include specialist knowledge of the research issue (Yegidis & Weinbach, 2002).

Although the initial intention was to collect data via focus groups with at least two focus groups (MP and MF) with eight participants in each, the researcher had to forgo this intention due to the difficulties in recruiting senior management and supervisors for groups. The project manager and researcher were only able to recruit eight participants for the semi-structured interviews. Attaining the anticipated number of 16 participants was not feasible due to the difficulties described. This represents a limitation to this section of the research study. The sample comprised seven males and one female who were employed in middle and upper managerial positions. Included in these key informant interviews were two employees who were directly involved in the EAP and EWP programmes of this company.

3.5.5.2. Data Collection Instrument

In considering the operational aspects of implementing the prevention programme the researcher made use of data collected via semi-structured interviews. Semi-structured interviews were therefore held with the substance abuse coordinator for the municipality's safety and security division, two EAP counseling staff of which one was the clinical manager, one station commander (MF) and one supervisor (MP). Semi-structured interviews were

not longer than forty-five minutes, ensuring that interviews did not impact on company productivity and company time.

The KII guide was designed by members of the research team to elicit information regarding the substance abuse and the substance-related HIV prevention programme. The KII guide consisted of both closed and open-ended questions regarding participants perceptions of the following aspects of the prevention programme: (i) knowledge of the research study; (ii) overall impression; (iii) repeat running of the programme; (iv) employees perceptions; (v) suggested changes; (vi) cost-effectiveness; and (vii) changes observed in employee behaviour (see Annexure N).

3.5.5.3. Data collection procedures

The interviewers for the KIIs interviews were the researcher and the project manager, both experienced in interview methods. The majority of the interviews were conducted at the individuals' workplaces and one was done at the offices of the Medical Research Council. The participants were asked for permission to make use of audio-recorders and written consent was obtained to participate in the interview, after the study was explained in detail (see Annexure M). All participants were assured of confidentiality and anonymity and were given the opportunity to ask questions relating to the study and interview, before the study commenced. One interviewer conducted the interviews while the other took notes and recorded observations. All KIIs were conducted in English and lasted for approximately forty-five minutes.

2.6. DATA ANALYSIS

Data for this study were analysed using both quantitative and qualitative methods. All quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS, Norusis, 2007) and SAS/STAT software, version 9.2, using a α of 0.05 cut-off for statistical significance.

2.6.1. PHASE 2: ANALYSIS OF CROSS-SECTIONAL DATA

Descriptive analyses (means, standard deviations and frequencies) were used to describe sample demographic data and profiles of participant substance abuse as well as substance-related-HIV and all other study variables. Reliability analyses were conducted for all psychometric scales. Principal component analysis was used to compute composite scores for the factors underlying each of the psychometric scales using oblimin rotations. The Kaiser-Meyer-Olkin measures of sampling adequacy tests were used to determine whether the partial correlations among variables were small or large using a significance level of 0.05. Bartlett's tests of sphericity were used to test whether the correlation matrix was an identity matrix, as this would indicate whether the factor model is appropriate or inappropriate for use (Field, 2009). Scale reliability was tested using Cronbach's alpha. Nunnally (1978) has indicated that ≥ 0.7 are acceptable reliability coefficients although lower thresholds are sometimes reported on in literature. A reliability coefficient below 0.5 is however unacceptable.

To examine significant differences between divisions (whether MP or MF) as well as drinking/abstainer categories on key variables (days having any use of alcohol in past 30 days, problematic alcohol use (days having more than five drinks in past 30 days and CAGE), individual and group stress, group cohesion, perceived risk, job satisfaction, drinking climate, formal sanctions, consequences of substance abuse, attitudes towards policy, the variable tolerance and responsiveness, stigma perceptions, absenteeism and presenteeism), bivariate analyses consisting of chi-squared tests of association, mann-whitney tests for non-parametric data and independent t-tests for parametric data were conducted. For independent t-testing, the researcher tested for equality of the variances using Levene's tests and used the appropriate assumption for the subsequent t-tests. The t-test assumes that the variability of each group is equal, if differences in variability are assumed, Levene's test result is used (Field, 2009). Considering that the data is clustered, and to adjust for clustering, the researcher also reports on the F-statistic (for all variables analysed) which was calculated using Gaussian regressions for continuous variables, Binary regression for categorical variables and Poisson regressions for count variables. Associations between past 30 day alcohol (more than five drinks) use and demographic variables such as age and

gender, as well as length of employment and a positive CAGE score were analysed using chi-square tests for categorical variables and Gaussian regression for continuous variables. To examine whether age, length of employment and days having more than five drinks were associated with a CAGE score ≥ 2 , binary regression analysis was employed. To further examine possible collinearity between the age and length of employment variables, the researcher ran analysis separately on each variable followed by inputting all variables into a regression model. All subsequent multivariate regressions followed this format of modeling.

Literature suggests that individual stress, group stress, high job stress, a climate favourable to drinking; job satisfaction and levels of group cohesion are associated to problematic drinking (days having more than five drinks). To test this assumption in the study, multivariate analysis (Poisson regression) was used to examine predictors of number of days having more than five drinks in past 30 days. The model was therefore built adding in only variables as suggested by literature. Age and divisional differences were also added into the model and adjusted for clustering as indicated earlier in this section. Regression analysis was also used to examine whether having more than five drinks, a CAGE score ≥ 2 and going to work with a hangover were predictors of absenteeism and presenteesim in the study sample, since literature suggests an association between problematic use of substances and being absent from work and presenteesim.

2.6.2. PHASE 4: ANALYSES OF CLUSTERED RCT DATA

Data for the clustered randomised control trial was analysed using SAS/STAT software, Version 9.2. Cluster specific methods were used in this study, since workgroups rather than individual participants were randomised. Analysis of the trial outcomes took into account stratification by division as two divisions participated in the study, namely MF or MP; repeated measures considering that participants were tested more than once (baseline, time 2 and 3-month follow-up), and clustering considering that actual workgroups were randomly assigned to an intervention or control arm. Effects of the intervention were estimated by comparing employees in the intervention and control arms, adjusting for clustering.

Firstly, to examine participant attrition and the extent to which persons that dropped out of the study differed from those who completed the study, logistic regressions (univariate) on baseline variables to predict dropout was used and adjusted for clustering. One variable (division) produced a significant result on the logistic regression analysis. A prediction model for completeness was then developed using a stepwise logistic regression model. All baseline variables were entered into the model with a probability of 0.1 to stay in the model. Division and age emerged as predictors, although age was not a significant predictor. MP employees were more likely than MF employees to dropout. The predicted proportions from the stepwise model, division and age (although not statistically significant) were used to create a weight for completeness so that complete cases were weighted higher. In the case of this study, sensitivity analysis was not conducted since full-information maximum likelihood methods (FIML) were used for analysing the data. FIML is a very sophisticated method that deals with missing data, parameter estimates and estimate standard errors all in one go. When full likelihood methods are used, there is no need for sensitivity analysis (Graham, 2009).

Data were analysed using a random effects model. The decision to use this model was guided by the fact that the data is hierarchical and clustered, and random effects models can be used to analyse data with clustered sources of variability. The SAS GLIMMIX procedure was used since it fits statistical models to data with correlations or non-constant variability and where the response is not necessarily normally distributed (GLIMMIX Procedure Manual). Entered into the model were group, time (refers to time 1 – time 2 – time 3) and division, and the researcher tested for a significant interaction between group and time. A significant statistical interaction on any of the variables measured, in the predicted direction, is indicative of the effect of the intervention overtime. Gaussian, Binary and Poisson regressions were used depending on whether the variable was continuous, categorical or a count variable (e.g. the substance-related HIV variable). Considering that division was part of the sampling frame and emerged as a predictor for dropout, adjustment for dropout was taken care of in the model. The researcher also reports on the effect size, since effect sizes are often used to quantify the size of the difference between the intervention and control group and therefore the effectiveness of the intervention relative to the control (Coe, 2002). The researcher will be guided by Cohen's proposal for

interpreting effect sizes: a “small” effect size is .20, a “medium” effect size is .50, and a “large” effect size is .80 (Cohen, 1988).

2.6.3. PHASE 7 DATA ANALYSIS (QUALITATIVE)

The purpose of qualitative data analysis is to sort and synthesise data acquired in such a way that themes and interpretations emerge (Tutty, Rothery, & Grinnell, 1996). Tesch’s (1990) model of content analysis, which proposes the use of eight distinct steps were employed in analysing the transcripts of the KII interviews. For the qualitative segment of this research study, qualitative data was analysed by hand.

The eight steps followed were:

1. All transcripts were read through to gain an understanding of the interviews.
2. The researcher selected the first interview. To obtain an essence of the interview the researcher attempted to understand the underlying meaning in the interview and made notes. This process was followed for all the other interviews.
3. A list of all the emerging topics was made. The researcher clustered the data into main columns.
4. The topics were abbreviated and written next to the appropriate segments of the transcripts. A preliminary organising scheme was carried out to see whether new themes emerged.
5. The most descriptive wording for emerging topics were identified and turned into themes. Related topics were grouped together.
6. A decision on the final abbreviation for each category.
7. The data material belonging to each category was assembled in one place and a preliminary analysis performed.
8. Existing data was recoded.

2.7. CHAPTER SUMMARY

This chapter described the aims and objectives of this study and outlined the research design that was used to achieve the objectives of the research study. This study comprised a clustered randomized control trial that examined the effectiveness of an evidence-based substance abuse and substance-related HIV risk workplace prevention programme called 'Team Awareness' on employees within a local municipality in the Western Cape. It was complemented by a systematic review of evidence-based substance abuse and substance-related HIV prevention programmes and a set of qualitative interviews with senior management on their perceptions of the intervention and its feasibility. The clustered RCT used the workplace questionnaire (WQ) to collect both survey data on the extent of substance abuse among 325 employees and outcomes data on the effect of Team Awareness on the 168 employees who participated in the intervention, comparing them to 157 participants allocated to the control arm of the study. Results are presented in chapters five, six and seven respectively.

The next chapter provides the results of the systematic review described in this chapter. The objectives of the review were to assess the effectiveness of programmes in which both substance-related HIV and substance abuse were the targets of interventions, with the purpose of selecting an intervention for implementation in South Africa.

CHAPTER 3

WORKPLACE SUBSTANCE ABUSE AND SUBSTANCE-RELATED HIV PREVENTION PROGRAMMES SUITABLE FOR A SOUTH AFRICAN SETTING: A SYSTEMATIC REVIEW⁶

3.1. BACKGROUND

Substance abuse in the workplace has generated considerable global discussion (Elliott & Shelley, 2006). Surveys estimate that one in ten American employees report experiencing problems related to alcohol or drugs, while one in three employees report experiencing the effects of co-worker substance abuse (Bennett et al., 2000; Levy Merrick, Volpe-Vartanian, Horgan, & McCann, 2007). Although literature on substance abuse in the South African workforce is limited, the country has seen a surge in reported use, in the general population, of substances such as heroin, cocaine and particularly crystal methamphetamine which has become increasingly widespread in Cape Town (Parry & Pithey, 2006; Pluddemann et al., 2008). In addition, although South Africa has a high percentage of persons abstaining from drinking alcohol, the annual per capita consumption of alcohol per drinker remains high and is estimated to be at 19.5 litres (Roerecke, Obot, Patra, & Rehm, 2008). A recent review of harmful drinking patterns and level of consumption in 20 African countries, ranked South Africa fourth highest in terms of the proportion of heavy drinkers as a percentage of current drinkers (Clausen, Rossow, Naidoo, & Kowal, 2009).

Studies conducted as far back as 1981 at a South African gold mine highlighted an increase in the consumption of alcohol (from 27,94 litres in 1976 to 34, 98 litres in 1981) among mine workers over a 4 year period (Kew, 1992). Similarly, the lifetime consumption of alcohol findings from a 1993 study among farm workers in the deciduous fruit industry in the

⁶ This chapter (depicting phase 1 of the study) is part of the whole research study and was key in sourcing the intervention that was subsequently tested (chapter 6). This chapter is written in the form of a manuscript since it was submitted to a journal for review (awaiting feedback). The researcher is the primary author and her contribution was the conceptualisation of the manuscript, data search and synthesis as well as the final write up of the manuscript.

Western Cape, reported average usual weekend consumption in grams of pure alcohol to be equivalent to the consumption of six 750-ml bottles of wine or a 750-ml bottle of spirits (London, 2000). In 1996, Ronelle estimated that 20% of the average workforce in South Africa is likely to have experienced a drug-related problem (Ronelle, 1996). More recently, the prevalence of risky drinking among workforces such as the mining industry has been estimated at 25% (Pick et al., 2003; Wilson, 1999).

This reported growth in substance abuse has been paralleled over the same period by an increase in HIV prevalence trends. An estimated 1.9 million people were newly infected with HIV in sub-Saharan Africa in 2008, bringing to 22.4 million the number of people living with HIV (United Nations Programme on HIV/AIDS (UNAIDS), 2010). In 2006 it was estimated that approximately 350 000 persons died of HIV in South Africa (Department of Health, 2010). It is further estimated that the HIV prevalence rate for adults (adults are classified as persons between the ages of 15-49) in South Africa is 18.8%. Data from the Department of Health reported that the Western Cape has seen the highest increase in the incidence of HIV in the country, an increase from 13.1% in 2003 to 15.1% in 2006. This is particularly worrisome given the body of research on the link between substance abuse and HIV globally and particularly in South Africa (Parry et al., 2010). While the majority of HIV/AIDS transmissions in Southern Africa occur through heterosexual contact, recent studies indicate that substance abuse plays a substantial role in this. Studies examining the link between substance use and sexual risk behaviours have found ample evidence of an association between substance abuse and risky sexual behaviours among men, women and adolescents (Morojele et al., 2006; Parry & Pithey, 2006; Wechsberg, Luseno, Riehm, et al., 2008). Although it is accepted that injection drug users (IDUs) are especially at risk for HIV infection (Carney & Parry, 2008), the role of non-injecting substances of abuse and risky sexual behavior should not be ignored. For instance, recent studies found that two adult community populations studied in Cape Town were more likely to engage in risky sex practices, characterised as sex with multiple partners, unprotected sex and transactional sex, if they were methamphetamine or alcohol users (Parry & Pithey, 2006; Simbayi et al., 2004).

Substance abuse by employees on or off-site impacts on work performance resulting in decreased productivity, work errors, wasted materials, tardiness and absenteeism, all translating to substantial productivity losses each year (Garcia, 1996; Kew, 1992; Levy Merrick et al., 2007; Roman & Blum, 2002). Attempts to address these huge economic losses in industry have seen advances in research on substance abuse prevention strategies designed for use in the workplace (Cook & Schlenger, 2002; Webb et al., 2009). This is particularly relevant considering not only the dearth of research in developing countries, but also for the reason that the workplace provides a possible environment for providing substance abuse and substance-related HIV prevention messages to working adults (Hersch et al., 2000; Levy Merrick et al., 2007; Webb et al., 2009; Zungu & Setswe, 2007). Reducing the risk of substance abuse, through the introduction of prevention programmes, ultimately impacts positively on employers and all employees. The workplace provides easier accessibility to risky substance abusers considering that the length of time a worker spends at work exposes employees to various interventions (Pidd & Roche, 2009; Webb et al., 2009). Workplace programmes also have trickle-down effects, suggesting that messages of substance abuse prevention can be filtered through to the family of the employee (Cook & Schlenger, 2002).

Although there is widespread agreement on the need for substance abuse workplace prevention programmes globally (Broome & Bennett, 2011; Cook & Schlenger, 2002; Webb et al., 2009) and in Africa (World Health Organisation (WHO), 2010a), there has been no critical review of published literature on substance abuse prevention interventions. Webb et al (2009) conducted a systematic review of alcohol abuse prevention programmes for the workplace, which did not include a focus on other substances of abuse. Databases such as that of the Cochrane Centre features reviews conducted in school and community settings but not the workplace setting (Webb et al., 2009).

Given the dual burden of substance abuse and HIV in South Africa and the need for information on how best to address this burden, the objectives of the systematic review were to assess the effectiveness of programmes in which both substance-related HIV and substance abuse were the targets of interventions. This review forms part of a larger study aimed at testing the effectiveness of a substance abuse and substance-related HIV

programme for implementation in South Africa and was used to select an intervention for implementation that is suited to both substance abuse and HIV risk prevention in a workplace context.

3.2. METHODS

A search of electronic databases was conducted in October 2009 to identify literature on workplace substance abuse and substance-related HIV prevention programmes. We used the following key words: substance abuse; substance misuse, drug abuse, alcohol abuse, alcohol misuse, dependency, interventions, programmes, workplace, work-related, workers, employees, industry, HIV/AIDS, HIV and HIV-related. This first search yielded no results and a second search was executed using the search terms: substance abuse, substance misuse, drug abuse, alcohol abuse, alcohol misuse, dependency, interventions, programmes, workplace, work-related, workers, employees, industry (See Figure 3 at the end of this chapter). The following databases were searched: PubMed, MEDLINE, Science Direct, EBSCO, Ovid, Cochrane and SABINET. The search for unpublished data involved making contact with key informants such as the United Nations Office on Drugs and Crime (UNODC), and other local experts in the field of substance abuse in the workplace. We also searched the World Health Organisation (WHO), Substance Abuse Mental Health Services Administration (SAMHSA) and International Labour Organisation (ILO) websites for unpublished articles and documents.

Two review authors independently screened the results of the searches to select potentially relevant studies. Eligibility criteria included the following inclusion criteria: For articles to be included in the review a) the primary outcomes should be reflected as i) reduction in alcohol and drug consumption measures and ii) a reduction in substance-related HIV risks; b) they had to be in English; c) the associations between substance abuse and/or substance-related HIV risks, prevention programmes and the workplace needed to be stated clearly and concisely; d) studies were only included if verifiable quantitative measures appropriate for inferring relationships between the intervention and outcomes were used and e) publication date in the period 1995 – 2009 were included. All four criteria had to be met for the study to be included.

In cases where abstracts matched the study inclusion criteria, corresponding full articles were retrieved and further reviewed to determine eligibility. Any differences between the eligibility results were resolved through discussion. Using a specially designed data extraction form, two review authors independently extracted information from the full articles on the methods, participants, interventions, and outcomes from each study deemed to be eligible. Differences were resolved through discussion. Two review authors independently assessed the quality of the included studies. The quality of interventions were rated using objective decision models by (Barbor et al., 2003; Loxley et al., 2003) and included the following criteria: standards of evidence; breadth of research support: cross-cultural applicability; target group representation; cost to implement, methodological strength of the study and other practical influences (see table 3). Disagreements between the authors were resolved through discussion. Study attributes and key findings were tabulated according to sample characteristics (target population, socio-demographics and region), study design, sample size, study replication history, measurable study outcomes and other key findings (see table 4). Programmes were compared with respect to their quality and key findings. Of the 14 studies reviewed, three were chosen for further review and their suitability for possible implementation in a South African setting was assessed.

This review took the form of requesting a group of experts to rate the selected interventions on: standards of evidence; breadth of research support: cross-cultural applicability; target group representation; cost to implement, methodological strength of study and other practical influences (Barbor et al., 2003; Loxley et al., 2003). The experts were selected on the basis of their experience in the substance abuse field and/or Employee Assistance Programmes. The experts comprised three academics, two EAP consultants (one a specialist in substance abuse) and a medical doctor knowledgeable on alcohol and the workplace.

Each member of the expert panel was mailed a rating sheet containing the 13 categories described by (Barbor et al., 2003) on the horizontal axis, individual study details on the vertical axis, and a rating scale on the left vertical axis. Using the categories, experts were asked to rate the studies as being least suited, moderately suited or most suited (see table 5). Studies rated as being least suited were given a rating of 1 and studies most suited were afforded a rating of 3, with 2 given to those that were categorised as moderately suited. The

ratings provided were tallied and the intervention with the highest result was chosen for implementation (see table 5).

3.3. RESULTS

3.3.1. DESCRIPTION OF STUDIES

3.3.1.1. Study Selection

The systematic review identified 1544 potentially eligible studies that met inclusion criteria. Following a process of reviewing the titles and abstracts, removing duplicates and articles that were not relevant (see Figure 3), 14 potentially eligible intervention studies were subject to further analysis. The initial aim of the study was to search for substance abuse and substance related HIV workplace interventions. The search yielded no results, which led to the adaptation of the search strategy (as indicated in the original proposal) and a search for only substance abuse workplace prevention programmes. This search identified 14 potentially eligible studies. The search strategy used for the identification and classification of papers is summarised in Figure 3. Of the 14 identified studies, 6 were randomised control trials (Anderson & Larimer, 2002; Doumas & Hannah, 2008; Matano et al., 2007; Moradi, Hidarnia, Reza, Mehdi, & Gholamreza, 2009; Richmond, Kehoe, Heather, & Wodak, 2000; Walters & Woodall, 2003), 4 were experimental studies (Bennett et al., 2004; Billings, Cook, Hendrickson, & Dove, 2008; Heirich & Sieck, 2000; Snow, Swan, & Wilton, 2002), 3 were quasi-experimental studies (Cook et al., 1996a; Cook, Hersch, Back, & McPherson, 2004; Deitz, Cook, & Hersch, 2005) and one study was a retrospective ecologic analysis (Spicer & Miller, 2005). The 14 studies selected varied in sample size: 8 studies had sample sizes between 100 and 1000 participants (Anderson & Larimer, 2002; Bennett et al., 2004; Billings et al., 2008; Cook et al., 1996a; Cook et al., 2004; Doumas & Hannah, 2008; Moradi et al., 2009; Snow et al., 2002). One study had a sample size of less than 100 participants (Walters & Woodall, 2003) and five studies had sample sizes greater than 1000 (Deitz et al., 2005; Heirich & Sieck, 2000; Matano et al., 2007; Richmond et al., 2000; Spicer & Miller, 2005).

3.3.1.2. HIV relevance of studies.

The initial aim of the study was to search for substance abuse and substance-related HIV workplace interventions. The search yielded no results, which led to the adaptation of the search strategy (as indicated in the original proposal) and a search for only substance abuse workplace prevention programmes.

3.3.1.3. Participants and Location

Twelve of the identified studies were conducted in the USA (Anderson & Larimer, 2002; Bennett et al., 2004; Billings et al., 2008; Cook et al., 1996a; Cook et al., 2004; Deitz et al., 2005; Doumas & Hannah, 2008; Heirich & Sieck, 2000; Matano et al., 2007; Snow et al., 2002; Spicer & Miller, 2005; Walters & Woodall, 2003). One study was conducted in Australia (Richmond et al., 2000) and one study in Iran (Moradi et al., 2009).

The target populations were all adults (>18 years), and the majority of studies had both male and female participants whilst three studies did not report a gender breakdown (Doumas & Hannah, 2008; Heirich & Sieck, 2000; Spicer & Miller, 2005). Seven studies provided a description of participant race classifications (Bennett et al., 2004; Billings et al., 2008; Cook et al., 1996a; Cook et al., 2004; Doumas & Hannah, 2008; Matano et al., 2007). The worksites included were all medium to large enterprises, with eight workplaces in the services industry (Anderson & Larimer, 2002; Bennett et al., 2004; Billings et al., 2008; Cook et al., 2004; Deitz et al., 2005; Doumas & Hannah, 2008; Richmond et al., 2000; Snow et al., 2002), four in the manufacturing industry (Cook et al., 2004; Heirich & Sieck, 2000; Moradi et al., 2009; Walters & Woodall, 2003), one in the transport industry (Spicer & Miller, 2005) and one industry chose to remain anonymous (Matano et al., 2007). The mean age of employees was reported in only six studies (Anderson & Larimer, 2002; Bennett et al., 2004; Cook et al., 2004; Matano et al., 2007; Richmond et al., 2000; Snow et al., 2002).

3.3.1.4. Interventions

All included studies sought to assess the effects of the interventions on drinking and drug use outcomes. Interventions differed in respect of the type of strategies used to deliver prevention messages. Within five of the included studies, alcohol and drug messages were embedded in a health promotion framework, which focused on topics such as healthy

eating, weight management, smoking, depression and anxiety and other wellness aspects (Anderson & Larimer, 2002; Billings et al., 2008; Cook et al., 1996a; Cook et al., 2004; Deitz et al., 2005; Heirich & Sieck, 2000). Bennett et al (2004), Cook et al (1996), Spicer et al (2005), Moradi et al (2009), Cook et al (2004) and Snow et al (2002), provided psychosocial skills training paying particular attention to peer referrals, team building, self-efficacy, coping mechanisms, resistance skills and stress management, whilst Matano et al (2007); Doumas et al (2008) and Walters et al (2003) provided alcohol and drug information. The majority of interventions were provided in a group setting (Bennett et al., 2004; Cook et al., 1996a; Cook et al., 2004; Deitz et al., 2005; Moradi et al., 2009; Snow et al., 2002; Spicer & Miller, 2005); one study used both a group setting, but also provided individual feedback (Heirich & Sieck, 2000). Three studies presented alcohol and other drug prevention information via an internet website (Billings et al., 2008; Doumas & Hannah, 2008; Matano et al., 2007) and one offered a free confidential check-up by mail (Walters & Woodall, 2003). Two interventions took place in a brief intervention format (Anderson & Larimer, 2002; Richmond et al., 2000). In their comparisons all studies included a control group; however, some studies had a no-treatment control group, while others compared 2 different experimental treatments to each other as well as a control group (Bennett et al., 2004; Doumas & Hannah, 2008; Heirich & Sieck, 2000; Matano et al., 2007; Walters & Woodall, 2003).

The presenters included researchers, peer educators, EAP staff and three studies used the internet as the intervention agent. The duration of the interventions ranged from two sessions in total to 15 sessions in total over a 4 week to 1 year time period. The web-based interventions provided access to the website, which ranged between 30 and 90 days.

3.3.1.5. Outcomes

The outcome measures chosen varied between studies, although the most frequently chosen outcomes were changes in alcohol or illicit drug use behaviours and attitudes, changes in drinking patterns, reductions in binge drinking and quantity and frequency of consumption. However, none of the studies included in the review reported any substance-related HIV risk measures.

All studies used self-report measures and two studies (Cook et al., 2004; Spicer & Miller, 2005) confirmed self-reports biochemically. Many of these outcomes were measured at different time points, which ranged from immediately following pre-testing to two weeks after pre-testing; on completion of the intervention and after a 4 week to 6 month follow-up period. Some studies also assessed other outcomes such as cardiovascular disease and alcohol risk presence (Heirich & Sieck, 2000) or associations between the intervention and risk of occupational injury (Spicer & Miller, 2005).

3.3.2. RATINGS OF INTERVENTIONS

The ratings of the 14 studies on different dimensions are provided in table 4.

Our primary outcome was reduction in alcohol and drug consumption measures. We could not perform a meta-analysis because of the heterogeneity in studies with respect to study design and a wide variation of outcomes reported. Here, we give a qualitative description of the results reported in the included studies.

3.3.2.1. Evidence of Effectiveness

The studies included presented with varying results with the majority reporting significant effects. Cook et al (2004) reported no significant differences between the experimental group and the control group on any of the alcohol consumption measures. In contrast, Bennett et al (2004) found that employees receiving the Team Awareness psychosocial intervention significantly reduced problem drinking from 20% to 11% as compared to control subjects who showed no significant change at 13% (Team Awareness versus Control; contrasts $F=6.78$, $p=0.01$), and also significantly reduced working with a hangover or missing work because of a hangover from 16% to 6%, as compared to control subjects who showed no change at 9% (Team Awareness versus Control; contrasts $F=7.34$, $p=0.007$). Similar results were recorded for Cook et al (1996), where the program group significantly reduced the average number of days (past 30 days) on which participants had a drink, from 7.9 to 4.1, as compared to the off-site control group, which showed an increase from 7.4 to 8.1 ($t=3.17$, $p=0.002$). The programme group also significantly reduced the average number of days on

which the employee drank 5 or more drinks as compared to the off-site control group ($t=2.15$, $p=0.035$).

In a pilot study, Matano et al (2007), found that the frequency of beer binges by moderate-risk participants dropped significantly among the participants receiving the Coping Matters intervention, an internet delivered alcohol education programme (-48%), compared to controls (+13%) (Intervention versus Control; $p=0.01$). Similarly, low-risk participants showed a significantly greater reduction in frequency of beer binges ($p=0.02$) as well as hard liquor binges ($p=0.05$) compared with the control. In Billings et al (2008), intervention participants adopted a more healthy approach to drinking as compared to controls by showing a positive movement on the binge drinking stage of change measure ($F=7.57$, $p=0.006$). Although Deitz et al (2005) reported a decrease in heavy drinking (5+ drinks on 5+ days in the previous 30 days) among participants in the intervention group, in comparison to those in the control ($p=0.020$), results on binge drinking were not significant ($p=0.070$). Significant decreases in alcohol consumption were also reported by Walters et al (2003) and Doumas et al (2008).

Studies using indirect measures of alcohol, such as the time-series design used by Spicer and Miller (2005) found a significant association between the percentage of employees covered under the PeerCare contract, a programme that promotes peer referral systems, and injury rates ($RR=0.9984$, 95% CI: 0.9975-0.9994). Similarly, Moradi et al (2009) found a significant improvement in most of the resistance skills among the intervention group. Anderson et al (2002) and Richmond et al (2000) found decreases in drinking among women in the experimental group when compared to controls.

3.3.2.2. Methodological Strength of the Studies

The studies varied on methodological adequacy. Six studies were randomised control trials, four were experimental studies, and three were quasi-experimental studies, with one study employing an ecological time series analysis. All trials were reported as randomised, yet none of the studies elaborated on sequence generation. Allocation concealment was clearly described in only 3 of the 6 randomised control studies (Anderson & Larimer, 2002; Doumas

& Hannah, 2008; Walters & Woodall, 2003). Blinding was generally not reported in the included randomised control trials except for the study by Deitz et al (2005).

Three studies reported on possible contamination of the intervention due to major policy changes at the time of the study (Bennett et al., 2004; Deitz et al., 2005; Heirich & Sieck, 2000). In the latter study the control group gained access to the intervention, which resulted in modifications to the study design, whilst other studies were single-site interventions and therefore failed to obtain a comparison group off-site.

The measures used were mainly self-report measures, although two studies used both self-report measures and bioassays (Cook et al., 2004; Spicer & Miller, 2005). Five studies reported on the reliability and validity of measurement tools used (Anderson & Larimer, 2002; Bennett et al., 2004; Cook et al., 1996a; Matano et al., 2007; Walters & Woodall, 2003). Studies also rated poorly on withdrawals and dropouts (with the exception of Walters et al., (2003) and Spicer et al., (2005) where retention was good (80% of participants completed the study).

Spicer et al (2005) ecological time series analysis included a long follow-up time which strengthened the study and facilitated monitoring change over time.

3.3.2.3. Intervention Integrity

Thirteen studies did not describe methods used to ensure intervention integrity and fidelity monitoring and were judged as weak in relation to meeting this criteria. Although Anderson et al (2002) indicated the use of checklists and feedback protocols to promote consistency in programme delivery; no formal evaluation method was reported.

3.3.2.4. Breadth of Research Support

In general the findings of the studies reported have not been replicated in the same or different contexts by the original researchers or others using the same methodology. Bennett et al (2004), Deitz et al (2005), Heirich et al (2000), Cook et al (1996), Cook et al (2004) and Snow et al (2002) have continued conducting field tests of the studies covered in the review and have shown repeated effectiveness.

3.3.2.5. Cross-Cultural, Gender and Population Applicability

The studies included in the review did not speak to cross-cultural applicability of the interventions although there is evidence that the intervention reported on by Snow et al (2002) was replicated in Trinidad and Tobago. All studies reported gender heterogeneity with the exception of Snow et al (2002) and Moradi et al (2009). The former had a female only sample and the latter a male only sample. Studies were representative of various population groups. The sample in Doumas et al (2008) was 70% female.

3.3.2.6. Target Group

Of the 14 studies included in the review, eight studies targeted the general workforce while two studies targeted light to moderate risk users (Richmond et al., 2000 and Walters et al., 2003). Two studies focused on high risk users (Cook et al., 1996a; Cook et al., 2004). Bennett et al (2004) and Richmond et al (2000) incorporated both white and blue collar workers whereas Deitz et al (2005) focused solely on white collar workers, while Cook et al (1996); Moradi et al (2009) and Cook et al (2004) targeted only blue collar workers. The remaining studies did not classify workers into blue/white collar categories.

3.3.2.7. Findings of the ratings provided by key experts

Following the rating of the 14 studies on the different dimensions supplied, two authors' studied the 14 interventions for studies that rated strongly on all or most of the dimensions discussed previously. The interventions by Bennett et al (2004), Deitz et al (2005) and Cook et al (1996) were selected for further review. A copy of the ratings sheet was sent to each member on the expert panel and they were asked to further provide their ratings on each of the studies and related categories. Cook et al (1996) was rated most suited in respect of programme length and costs to implement. Deitz et al (2005) rated most suited on the diversity of topics covered, methodological strength and breath of research support. Bennett et al (2004) was rated strongly on target groups, cross cultural applicability, intervention integrity, effectiveness, focus on alcohol and drugs and material availability. Table 5 provides a breakdown of the ratings supplied by the 6 experts. Once the results were tallied, the intervention by Bennett et al (2004) rated the strongest and a decision was made to implement this intervention in the service industries in Cape Town (see Chapters 4 and 5).

3.4. DISCUSSION

The main purpose of the review was to determine the effectiveness of a workplace based substance abuse and substance-related HIV risks programme for reducing substance abuse behavior in the workplace.

The review highlighted the scarcity of evidence, with only 14 trials found that evaluate the effectiveness of substance abuse workplace prevention programmes. While some of these trials are burdened with methodological problems, a finding consistent with a previous review of alcohol related workplace interventions (Webb et al., 2009), there are studies with potential for replication. The choice of intervention was not solely dependent on methodological adequacy and intervention effectiveness alone, but incorporated additional criteria for choosing effective prevention strategies (Barbor et al., 2003). As a result, the 14 included studies were rated using Barbor's criteria. In addition, considering that included studies originate from the USA, Australia and Iran, reviewers had to determine certain contextual practicalities such as whether an intervention is practically implementable and culturally appropriate for a South African workplace.

Regarding evidence for effectiveness, study results were varied with the majority of studies showing significant reductions in drinking and substance abuse patterns, suggesting that the interventions reviewed have potential for changing the alcohol and drug related behaviours of employees. There were however, studies, such as that of Richmond et al (2000) that revealed a significant reduction in the number of drinks among women. This raises an important issue that relates to the relevancy and applicability of intervention programmes to either the entire workforce or a segment of the workforce. Considering that Richmond used Brief Interventions (BI) as an intervention tool, it would be worth exploring if women are more likely to initiate change when exposed to interventions that are more personal and one-on-one oriented. Stotts and colleagues (Stotts, DeLuane, Schmitz, & Grabowski, 2004) and Everett (Everett, 2004) found some evidence demonstrating the effectiveness of BI in reducing smoking among pregnant women. Interventions such as Richmond (Richmond et al., 2000) should therefore be considered for women-only audiences as opposed to a general workforce setting, and further tested for effectiveness. Team Awareness (Bennett et

al., 2004) was the only study focusing on promoting team work, improving group cultures by reviewing group risks and changing social norms.

Studies by Moradi (Moradi et al., 2009), Spicer (Spicer & Miller, 2005), Heirich (Heirich & Sieck, 2000) Bennett and Cook (Bennett et al., 2004; Cook et al., 2004) emphasise the various direct and indirect approaches used for delivering substance abuse prevention messages and changing alcohol and drug behaviours of employees. Programmes embedded in a less stigmatised topic, such as employee health and wellness, are often more palatable, acceptable and likely to receive more attention from the corporate sector in comparison to a programme that focuses solely on substance related issues (Cook & Schlenger, 2002; Heirich & Sieck, 2000). Cook and Schlenger (Cook & Schlenger, 2002) argue that despite the different prevention approaches employed, all rely on the same premise that the workplace is a potential setting for diffusing substance abuse prevention messages.

The study by Snow et al (2002) evaluated the impacts of their intervention for 6 months following post intervention testing. The use of such a study design is encouraged (Snow et al., 2002) as it shows the distal effects of an intervention. Although research studies evaluating the distal or long term effects of any given workplace prevention programme is limited, a programme ensuring sustained effects over a period of time remain valuable (Rossi et al., 2004).

Although the review produced a wide range of studies, variability in study design and methodology was significant. The heterogeneity of these study findings therefore thwarted the possibility of comparing study results and consequently a meta-analysis of findings was not feasible because no two studies were comparable. Webb (Webb et al., 2009) in a review of alcohol abuse prevention programmes cites this variability as a challenge calling for the standardisation of methods used for evaluating substance abuse interventions in the workplace.

By and large, all included studies lacked methodological rigour mainly in respect of sample representivity, a problem also discussed in the review by Webb (Webb et al., 2009). Six studies employed randomised control trials considered the gold standard of intervention

trials, and are often considered to be free of selection bias problems. Although all studies used randomisation none explicitly mentioned sequence generation resulting in insufficient information to permit a decision regarding selection bias. In addition, a high risk of allocation bias was reported in some studies. The majority of studies did not report on blinding processes, a fundamental in minimising detection bias and ensuring that the compared groups receive a similar amount of attention (Webb et al., 2009). Three studies (Bennett et al., 2004; Deitz et al., 2005; Heirich & Sieck, 2000) reported on possible confounders that could have led to the contamination of study results and has serious implications for validity of findings (Webb et al., 2009). In addition, single site interventions ran the risk of reactive effects considering that there may have been some benefit to non-intervention workers, thus creating potential bias (Bless et al., 2006). The majority of studies included made use of self-report measures thus introducing the possibility of biased responses, and has been found to compromise the validity of research studies.

Intervention Integrity, important in determining the degree to which specified procedures of the intervention were implemented as planned (Leff, Hoffman, & Gullan, 2009; Stead et al., 2007), was poorly reported. Studies did not report if interventions were systematically monitored to determine the degree of integrity to which the interventions were implemented. Other literature sources verify that although the degree to which a planned intervention is implemented remains crucial, few research and conceptual models on maintaining programme fidelity actually exist. As a result intervention integrity is only recorded in a handful of studies ranging from 3.5% to 28% of studies reviewed (Leff et al., 2009), highlighting a need for the development of a set of guidelines for conducting workplace and other prevention interventions (Foxcroft, Ireland, Lister-Sharp, Lowe, & Breen, 2003; Webb et al., 2009).

Babor et al (2003) and Loxley et al (2003) suggest the use of certain standards of evidence for the evaluation of prevention interventions. Breadth of research support reports on the number of scientific studies conducted on an intervention and the consistency of the results obtained. Despite reviews by Webb et al (2009) and Roman et al (1996), the availability of integrative reviews in the field of workplace substance abuse prevention remains small. Although not published there is however evidence of replications for studies conducted by

Bennett et al (2004), Deitz et al (2005), Heirich et al (2000), Cook et al (1996), Cook et al (2004) and Snow et al (2002) all pointing to average consistency in findings. Bennett et al (2004) study was replicated and found to be effective in reducing drinking and associated problems among young restaurant workers (Broome and Bennett, 2010). Furthermore, studies by Bennett et al (2004), Deitz et al (2005), Heirich et al (2000), Cook et al (1996), Cook et al (2004) and Snow et al (2002) are all accredited by the Substance Abuse Mental Health Services Administration (SAMHSA) within the National Registry of Evidence-based Programmes and Practices (NREPP). The NREPP is a USA registry of mental health and substance abuse interventions that have been reviewed and rated by independent reviewers.

The degree to which interventions are tested cross-culturally or relevant to a specific target group or population remains a crucial criterion for prevention research and should be considered particularly in instances where interventions are to be replicated (Myers, Harker Burnhams, & Fakier, 2010). Information utilised in substance abuse prevention programmes should not only be scientifically correct and reliable, but also be culturally applicable and tested within a target population (United Nations Office on Drugs and Crime (UNODC), 2005). Although a few studies describe the variability of alcohol consumption rates between men and women, the studies do not deal adequately with cultural differences in substance abuse behavior, particularly gender and race differences. This inconsistency was also noted in a review of alcohol-related workplace prevention programmes completed by Webb and colleagues (Webb et al., 2009). In addition, with the exception of Bennett et al (2004) study, no mention was made of possible minor adaptations of interventions to ensure a unique fit to the chosen setting, industry or target population.

The relative monetary costs to implement and sustain an intervention (Barbor et al., 2003), as well as intervention feasibility issues, are all important facts to consider when evaluating an intervention. Consequently, the selection of an intervention for implementation in South Africa, besides reporting significant results with good methodological and other strengths, should also be cost effective, practically implementable and represent the target audience. As a result ten studies included in the review were excluded from final selection based on practicalities, target audience and/or high expense. Studies by Billing et al (2008); Matano et

al (2007) and Doumas et al (2007) were excluded because they report on the effectiveness of e-learning methods as a preventative tool. Although the internet offers a cheaper method of delivering prevention messages, it raises an additional concern regarding accessibility to web services, particularly for sectors that employ largely blue collar workers, who are defined as unskilled or semiskilled labour (Richmond et al., 2000). In addition, literacy issues may act as a barrier to utilising web services considering that the minimum reading level for South Africa is the sixth grade. Walters et al (2003) and Deitz et al (2005) used mailed self-report surveys as their data collection tool, which may also pose difficulties considering the realities of informal housing and lack of formal postal addresses in certain areas of South Africa (Wilkinson, 2000). The study by Heirich et al (2000) focused mainly on cardiovascular disease and alcohol and required the use of medical personnel for data collection purposes, while Anderson et al (2002) and Richmond et al (2000) mostly used individualised feedback sessions, both would have proved too costly to implement. The study by Spicer et al (2005) employed the use of a longitudinal design and produced a moderate effect. This option however, may be expensive with initial implementation but potential for long term cost savings. Studies conducted by Snow et al (2002), Moradi et al (2009) and Doumas et al (2007) were excluded based on the fact that the interventions were designed for use in either male or female populations or within a specific age category.

During the initial formulation of study aims and objectives, the intention was to search for workplace prevention programmes with a focus on substance abuse and substance related HIV workplace interventions. A search for interventions fitting these descriptions produced no results and the search was revised using only substance abuse search criteria. Although there is academic consensus on the intersection between substance abuse and risky sexual behavior (Parry & Pithey, 2006; Parry et al., 2010), no single workplace prevention programme addresses these two major public health issues in one single programme. HIV/AIDS and substance abuse prevention programmes are rolled out separately where the link between substance abuse and risky sexual behaviours is implied but not clearly defined. Considering the growth in substance abuse and HIV prevalence rates in South Africa it has become imperative that prevention/awareness programmes begin addressing these two public health issues (namely substance abuse and HIV/AIDS) not as separate problems but interconnected problems (Pithey & Parry, 2009).

3.5. CONCLUSIONS

Despite the systematic search for methodologically sound workplace prevention programmes, the search yielded only 14 studies for inclusion in the review. Wide-ranging variability in study design, study results and outcome measures resulted in a failure to compare the 14 studies. However, the evidence concludes that most studies (Anderson & Larimer, 2002; Bennett et al., 2004; Billings et al., 2008; Cook et al., 1996a; Deitz et al., 2005; Dumas & Hannah, 2008; Heirich & Sieck, 2000; Matano et al., 2007; Moradi et al., 2009; Richmond et al., 2000; Snow et al., 2002; Spicer & Miller, 2005) employed average to good study designs with some reporting significant effects showing potential for replication.

3.5.1. IMPLICATIONS FOR PRACTICE

The following implications emanated from the systematic review process:

In respect of study effectiveness, it appears from the evidence that interventions embedded in health promotion (Cook et al., 1996a; Cook et al., 2004; Deitz et al., 2005; Heirich & Sieck, 2000; Snow et al., 2002), interventions based on psychosocial and life skills and changing of social norms (Bennett et al., 2004; Moradi et al., 2009), brief interventions (Anderson & Larimer, 2002; Dumas & Hannah, 2008; Richmond et al., 2000), and peer referrals (Spicer & Miller, 2005) have potential to produce positive results. Although studies by Matano et al (2007); Dumas et al (2008); Billings et al (2008) report on the effectiveness of e-learning methods as a preventative tool, concerns related to the overall practicality of using the web as a prevention tool in resource-poor settings and in populations characterised by low literacy levels needs to be considered. Similarly, despite the two mailed-feedback interventions yielding positive results and being relatively cost effective, it may not be practical for use in settings characterised by informal housing and unreliable postal delivery systems. However, the use of such mailed-feedback methods proposes innovative ways to packaging prevention programmes. The study by Richmond et al (2000) and additional literature sources also highlight the value of brief interventions when addressing risky alcohol use among women. Lastly, there is a need for the development of organised and formalised responses in dealing with the HIV epidemic and the increase of substance abuse among employees.

3.5.2. IMPLICATIONS FOR RESEARCH

Consistent with findings by Webb et al (2009), the review points to a scarcity of quality intervention studies available for wider implementation. In addition, studies are weighed down by methodological inadequacies highlighting the need for more rigorous study designs (Webb et al., 2009). Although RCTs are considered the gold standard, they are not always practical. In such instances the use of longitudinal or time series study designs with sufficient measure points are encouraged (Foxcroft et al., 2003). The majority of studies are small scale, once-off studies which compromise the generalisation of results and do not add to the breath of research support which is valuable in motivating for study replication. Ideally future interventions should be larger scale and replicated in multiple settings to ascertain whether adapted versions of the study will have similar effects. Greater attention should also be afforded to the cultural applicability of studies particularly in relation to race, gender and age. Similarly, some studies failed to report on intervention integrity. This is despite literature recommending the evaluation of programme fidelity, as these are important additional indicators to determining success or failure of a study. In addition future research should use outcome measures other than only using self-report measures. Consideration should also be given to developing single outcome measures that can be used to predict substance abuse. Finally, the development of cost effectiveness assessment tools will also be advantageous for study replication in resource-poor settings.

The next chapter of this dissertation will focus on the adaptation of the selected intervention.

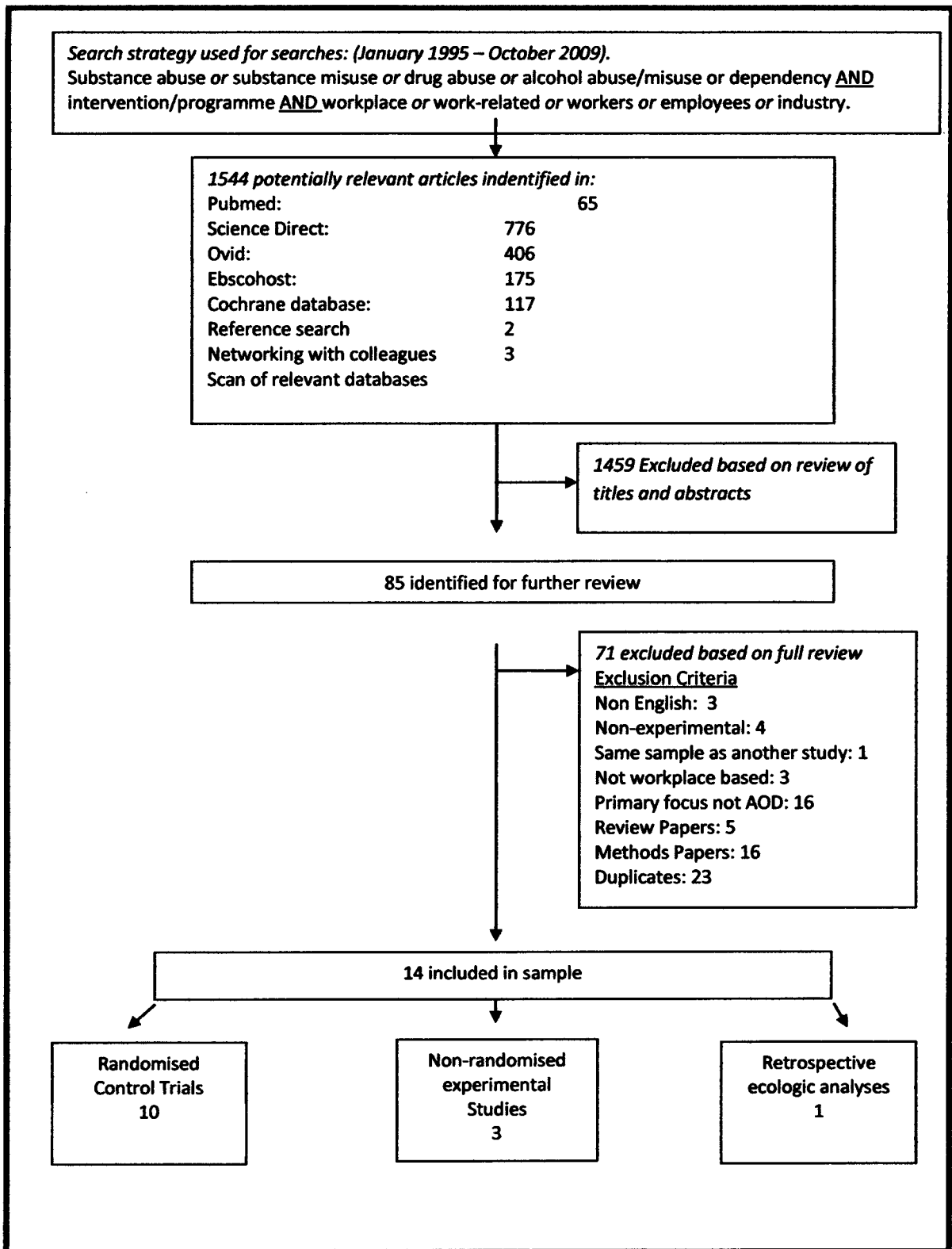


Figure 5: Flow chart indicating search strategy and process

Table 3: Study characteristics of the 14 studies identified

Author	Country	Target Industry	Design	Sample Size (n)	Participation Rate	Sex	INSTRUMENTS USED and OUTCOMES
Matano et al (2007)	USA	Anonymous	RCT	8567	2.7%	Male: 22.1% Female: 77.9%	The Audit questionnaire The Cage questionnaire Company Injury Records
Spicer & Miller, (2005)	USA	Transport Industry	Time series design	Not indicated	86%	Not indicated	Company Injury Records
Deitz et al (2005)	USA	Insurance company	Quasi-experimental design.	1167	46% - 47%	Not indicated	Health Behaviour Questionnaire - Heavy drinking (5 or more days having 5 or more drinks in past 30 days) - Binge drinking (1 day with 5 or more drinks in past 30 days)
Bennett et al (2004)	USA	Safety Sensitive Jobs	RCT	587	73%	Male: 83%	Own measures developed Four consumption (frequency and drunkenness) questions; 5 questions relating to hangovers; 6 questions relating to problems as a result of use; 7 questions related to work drinking climate and co-worker use.
Richmond et al (2000)	Australia	Postal service workers	RCT	1206	61%	62% male and 38% female	Health and Fitness Questionnaire (HFQ). Mean # of standard drinks per week; regular excessive drinking (quantity/frequency index); binge drinking in previous 3 months
Anderson & Larimer, (2002)	USA	Food and Retail	RCT	155	77%	51 men & 31 women 47 men & 26 women	Alcohol Dependence Scale; Inventory of drug taking situations; Comprehensive effects of alcohol questionnaire. Frequency of consumption and peak BAL; # of drinks consumed per day in previous 3 months; Typical BAL (typical # of drinks consumed per occasion and period of time over which drinking occurred during past 3 months).
Doumas & Hannah, (2007)	USA	Not indicated	RCT	124	63%	73% male 27% female	Daily Drinking Questionnaire. 3 measures of alcohol consumption (drinking quantity, peak consumption, freq of drinking to intoxication); Binge drinking measures (frequency of binge drinking).

Heirich & Sieck, (2000)	USA	Industrial workers	RCT	2000	-	Not indicated	Self-report drinking levels Biometric measures of CVD risks ; Quantity and Frequency
Cook et al (1996)	USA	Printing company workers	Quasi experimental	108	-	60 males and 47 females	Health Behaviour Questionnaire Heavy drinking (5 or more days having 5 or more drinks in past 30 days); Binge drinking (1 day with 5 or more drinks in past 30 days)
Walters & Woodall, (2003)	USA	Manufacturing workers		48	7.4%	56% female	Measures Used: Quantity/Frequency of Consumption Measure; Short Index of Problems - Recent; Importance-Confidence Indicators; Perceived Risk of Alcohol Work and Family Stress Questionnaires. # of drinks drank per month and; the extent to which alcohol was used to reduce tension
Snow et al (2002)	USA	Secretarial	RCT	239		All females	Trans -Theoretical Model based on Prochaska's processes of change. Outcomes measured: Knowledge on drug abuse; Attitudes towards drug abuse; Resistance skills
Moradi et al (2009)	Iran	Petrochemical workers	RCT	181		Not indicated	Questionnaire composed of items in National Household Survey on Drug Abuse. Bioassay data was also used. Outcomes measured: Alcohol use quantity/frequency; Drinking stages of change; Illicit drug use
Cook et al (2004)	USA	Construction workers	Quasi experimental	374		98% male	Stage of Change; Past 30 day use
Billings et al (2008)	USA	Technology company	RCT	309	-	29.4% males and 70% females	

Table 4: Study ratings of interventions (Key for ratings on next page) Source: Barbor et al., (2003); Leff et al., (2009)

Author and Year	Standards of Evidence¹	Methodological Strength of Study	Intervention on Integrity²	Breadth of Research Support³	Cross Cultural Applicability⁴	Cost to Implement⁵	Target Group⁶	Practicalities⁷	Overall Assessment
Matano, et al (2007)	++	RCT	0	+	+	Low	GW	Web-based Low participation	Web-based Not Suited
Spicer et al (2005)	++	Time Series Design	0	+	+	High	GW	Indirect measure of alcohol	Time frame Not suited
	++	Non-randomized experimental	0	+++	+	High	GW	Mailed surveys	Mailed self-report survey – good results
Deitz, et al (2005)									
Bennett et al., 2004	++	RCT	0	+++	+	High	GW		
Richmond et al (2000)	+	RCT	0	0	+	moderate	Low -moderate risk users		Not suited (Average results and Brief Intervention)
	+	RCT	++	+	+	Low	GW		Not suited (Average results and Brief Intervention)
Anderson et al (2002)									
Doumas et al (2007)	++	RCT	+	+	+	Moderate	Young Adults	Web-based; target group young people	Not suited (see practicalities)
	++	RCT	0	++	+	High	GW	Would require medical personnel. Weak method	Not suited (see practicalities)
Heirich et al (2000)									
	++	Non-randomized experimental	0	++	+	Moderate	HR		
Cook et al (1996)									
	++	RCT	0	+	?	Low	Light to moderate drinkers	Mailed feedback, may not work BC	Not suited (see practicalities)
Walters et al (2003)									
	++	RCT	0	++ (Trinidad and Tobago)	0	Moderate	Women only	Women only	Considered but rejected because women only focus
Snow et al (2002) (Book Chapter)									
Moradi et al (2009)	+	RCT	0	+	+	Moderate	GW but males only	Alcohol not the	Not suited

								primary outcome	(see practicalities)
	+	Non-randomized experimental RCT	0	++	+	Moderate	HR	Males only Poor results	Not Suited (see practicalities)
Cook et al (2004)	++		0	+	+	Low	GW	Web-based	Not suited Web-based
Billing et al (2008)									

Key: Ratings of Interventions

- 1 0 Evidence indicates a lack of effectiveness; + Evidence for limited effectiveness; ++ Evidence for moderate effectiveness; +++ Evidence of a high degree of effectiveness
- 2 0 Consistency of intervention not reported on; + Implemented with a low degree of fidelity; +++ Implemented with a high degree of fidelity
- 3 0 No studies of effectiveness have been undertaken; + Only one well designed study of effectiveness completed; ++ Two to four studies of effectiveness completed; +++ Five or more studies of effectiveness completed
- 4 0 Not tested adequately across cultures; ? Not reported on; + Studied in only one country; ++ Studied in two or more countries; +++ Studied in five or more countries
- 5 Low: Low cost to implement and sustain; Moderate: Moderate cost to implement and sustain; High: High cost to implement and sustain
- 6 GW General Workforce; HR High Risk Users; MR Moderate Risk Users; LR Low Risk Users
- 7 This column considers the practicalities and implementability of the programme in the SA context

Table 5: Expert Reviewer Ratings for three selected interventions (number of raters indicating that the intervention rates adequately for a particular category)

Categories and Ratings	Cook et al (1996)	Deitz et al (2005)	Bennett et al (2004)
	A	B	C
			Ratings
Interventions Descriptions	9	13	15
Focus (Alcohol only or AOD)	7	16	17
Length	14	11	11
Material	11	13	15
Topics Addressed	9	18	13
Effectiveness	9	13	16
Methodological Strength of Study	9	17	12
Intervention Integrity	9	9	9
Breath of research support	11	17	13
Cross Cultural Applicability	11	11	12
Cost of implement	15	8	12
Target group	10	7	16
Practicalities	16	7	15
TOTAL	140	160	178

CHAPTER 4

ADAPTATION OF THE 'TEAM AWARENESS' EVIDENCE-BASED PREVENTION PROGRAMME AND PROGRAMME FIDELITY

This chapter aims to describe the effective adaptation of an evidence-based substance abuse and substance-related HIV risks prevention programme for application in the workplace. The selected intervention was 'Team Awareness'. This intervention was chosen through a systematic review process described in chapter 3.

4.1. INTRODUCTION

Substance abuse disorders commonly occur along a continuum of severity ranging from no use through to occasional/recreational use, misuse, abuse, with the end stage being dependence (McCann et al., 2011). The WHO (World Health Organisation (WHO), 2002) recommends different intervention strategies for each level of severity, with interventions increasing in intensity as problem severity increases. For instance, universal prevention activities, such as Team Awareness, are appropriate for individuals with no or occasional substance abuse as these activities attempt to prevent the onset of substance-related disorders and its associated risks, such as HIV risk behaviour (Kumpfer, Alvarado, & Whiteside, 2003; Myers et al., 2010). This implies that substance abuse disorders require psycho-social approaches for the prevention and treatment of substance abuse and associated risk factors (Myers, Burnhams, Kader, & Fakier, 2008). In recent years there has been an increased focus on implementing substance abuse prevention programmes that are universal and evidence-based (SAMHSA, NIDA, CSAP). Universal prevention addresses the entire population, in this case the working population, who share the same general risk for substance abuse, although the risk may vary greatly among individuals. Universal prevention programmes are delivered to groups of individuals without any prior screening for substance abuse risk. The aim of universal prevention is therefore to deter, or to delay, the

onset of substance abuse by providing all individuals with the information and skills necessary to prevent the problem (Mrazek & Haggerty, 1994).

The implementation of a universal prevention programme was the focus of this study for the following reasons. Despite widespread agreement on the need for global substance abuse workplace prevention programmes (Broome & Bennett, 2011; Cook & Schlenger, 2002; Webb et al., 2009) and more specifically in Africa (World Health Organisation (WHO), 2010b), there has been a dearth in the implementation of evidence-based universal level prevention programmes. In addition, reducing the risk of substance abuse, through the introduction of prevention programmes, ultimately impacts positively on employers and employees alike. Additionally such programmes can include a focus on substance-related risks, such as HIV, since South Africa is faced with high HIV prevalence rates. The country as a whole, including the corporate sector, is expected to respond to the challenges of the HIV/AIDS epidemic (Mahajan et al., 2007). The workplace provides easier accessibility to risky substance abusers and those at risk for substance-related HIV considering that the length of time a worker spends at work exposes employees to various interventions (Pidd & Roche, 2009; Webb et al., 2009). Consequently, workplace programmes can also have trickle-down effects, suggesting that messages of substance abuse and substance-related HIV prevention may be filtered through to the employee's family (Cook & Schlenger, 2002).

Furthermore, in South Africa substance abuse and substance-related HIV prevention interventions have followed unscientific, passive practices that generally focus on imparting knowledge, but do not guarantee behaviour change (Burnhams, Myers, & Parry, 2009; Myers et al., 2010). This is not only evident in interventions targeting the working population but also programmes targeting families and youth (Burnhams et al., 2009). Efforts to introduce scientifically tested programmes have therefore received very little attention. In addition, many of South African workplaces have dedicated EAP programmes that seek to address chronic substance abuse problems among employees. These are often employees who have already been identified as having more serious, chronic problems with substances (Steenkamp, 2008). A need therefore exists for the introduction of evidence-based universal level, prevention initiatives that provide for early prevention before the onset of chronic substance-related problems and associated risks such as HIV.

Evidence-based practices are intervention practices or programmes for which there is a large body of research evidence in support of its effectiveness. Some criteria that are used to evaluate an evidence-based intervention or practice include the following (excerpt taken from Myers et al., 2008):

- At least one randomised clinical trial (RCT) has been conducted and proven this practice/intervention to be effective. *RCTs are the gold standard of research methods to test new or existing interventions.*
- The chosen intervention/practice should have demonstrated effectiveness in several replicated research studies using different population and ethnic groups. *This suggests that the intervention has proven to be useful for several different kinds of clients and is applicable in a range of contexts.*
- The intervention targets behaviours or has a good effect on behaviours that are generally classified as accepted outcomes.
- The practice is based on a clear and well-articulated theory of behaviour change.
- The intervention/practice can be evaluated. *Evaluation or the measurement of behaviour outcomes is an essential requirement of research on intervention effectiveness.*
- The practice/intervention addresses cultural diversity and different populations. *The intervention should be applicable to a wide variety of client populations, or be easily modified or adapted for different populations. (The IOWA Consortium for substance abuse research and evaluation, 2003; CSAP).*

4.1.1. CURRENT STUDY

Team Awareness was adapted for the employee participants who participated in the clustered RCT in the Western Province, South Africa. Adaptation was a process developed over a period six months. The Team Awareness training modules developed in the USA were kept unchanged; however certain other materials and exercises were adapted to reflect the local South African statistics and language suitable to workers in the specific workplaces.

4.1.2. TEAM AWARENESS

Team awareness is an evidence-based workplace training programme developed by a group of scientists at the Institute of Behavioral Research, based at the Texas Christian University, USA (see Addendum H for a description of TA). The programme addresses behavioural risks among employees, their co-workers and indirectly, their families. Team Awareness consists of six training modules (See Annexure I) that are presented to employees over an eight hour session. TA aims to promote social interaction among work teams, promote a positive and health work and team environment, and facilitates the destigmatisation of help-seeking thus encouraging such proactive behaviours (Bennett et al., 2000; Bray, Galvin, & Cluff, 2011). The modules cover:

1. **Relevance:** This module considers existing community and work related risks and how the work team members can assist and support each other. The seven core prevention principles are discussed interactively and are the thread that binds all the six modules (see Annexure J for a description of the prevention principles).
2. **Team Ownership of Policy:** this module considers the relevant company substance abuse policy and uses a risk and strengths game that is aimed at creating positive attitudes and team ownership of policy in the workplace and for encouraging help-seeking. This module also strengthens worker awareness of available resources, such as the EAP.
3. **Tolerance versus responsiveness and reducing stigma:** this module is aimed at reducing supervisor and co-worker tolerance of risky behaviour.
4. **Work stress, coping and problem solving:** In this module employees are encouraged to identify signs of poor coping. The module promotes healthy alternatives of dealing with stress.
5. **Workplace Communication skills:** This module reviews listening ability and looks at communication skills in the workplace.
6. **Encouragement:** The last module uses what is described as the NUDGE model which was developed by the programme developer to encourage peer referral skills and employee alliance with the Employee Assistance/Wellness Programme (EAP/EWP).

The TA awareness prevention programme makes use of mini-lectures, interactive discussion sessions, a 'risks and strengths' game, communication exercises and various experiential learning exercises such as role-plays (Bennett et al., 2000).

Team Awareness has been shown to increase employee help-seeking behaviour, supervisor responsiveness to troubled workers, enhance the work climate, and reduce risky behaviour. Randomised studies have also shown that Team Awareness reduces problem drinking and drinking climate among workers (Bennett & Lehman, 2001; Bennett et al., 2004). In addition, the programme was rigorously evaluated in 2002 and 2007, by expert reviewers with the National Registry of Evidence-Based Programs and Practices and included in the registry as evidence - based programme (Hennessy, Finkbiner, & Hill, 2006).

4.1.3. ADAPTATION PROCESSES

Adapting programmes is an important aspect of replicating evidence-based programmes in different contexts. Adaptation improves the intervention in order for it to uniquely benefit the target audience and to promote support and appreciation of the programme (Leerlooijer et al., 2011). For adaptation it is especially important to keep in mind divergent socio-economic factors along with social, cultural and educational aspects among various countries and communities. Although home-grown programmes are perhaps the ideal, at times it is more viable to replicate an existing, well-researched programme. The costs associated with developing evidence-based interventions and implementing and evaluating such interventions is huge, and often not feasible for resource-poor settings (Leerlooijer et al., 2011). In addition to adaptation being cost-effective, cross-country adaptation allows for collaboration with the original programme developer and consequent capacity building.

Despite the evidence that many adolescent, school-based and family skills training programmes (United Nations Office on Drugs and Crime (UNODC), 2009; Wegner, Flisher, Caldwell, Vergnani, & Smith, 2008) have been successfully adapted and implemented in different cultures, the body of evidence for replication of substance abuse workplace prevention programmes is not so wide (Bennett, Aden, Broome, & Mitchell, in press).

Therefore, practitioners and researchers are encouraged to engage in a process of adaptation, to create a support base for existing literature (Bennett & Lehman, 2003).

Research suggests that adaptations of behaviour change programmes are critical to recruiting, engaging and retaining participants and can increase the retention rate by up to 40 per cent (Catalano et al., 1993; Hawkins, Catalano, & Arthur, 2002; United Nations Office on Drugs and Crime (UNODC), 2009). It has been found that when such cultural adaptations of workplace prevention programmes are carried out properly, there is good evidence that the programme can be effective with diverse population groups (Bennett et al., in press). However, although the adaptation needs to respond to the culture and socio-economic situation of the target population, fidelity to the evidence-based programme must be ensured (Wegner et al., 2008). In other words, adaptation must retain the core elements of the programme. Generally, research-based components in adaptation include, but are not limited to: i) developing an understanding of the target population and community context; ii) selection of a programme that matches well with the population and context; iii) specification of essential programme elements and means for fidelity implementation; iv) identification of incongruities between the programme and the new context; and v) documentation and evaluation of the adaptation process, and outcomes related to the adapted intervention (Papas et al., 2010; Saleh-Onoya et al., 2008; Tsarouk, Thompson, Herting, Walsh, & Randell, 2007; Wingood & DiClemente, 2008). The above steps were utilised and supplemented with additional steps advocated by the United Nations Office of Drugs and Crime (United Nations Office on Drugs and Crime (UNODC), 2009), and that of the programme developer (Bennett et al., 2002).

4.2. METHODS

The context of this study was employees of two divisions in the safety and security department of a local municipality in the Western Cape.

4.2.1. ADAPTATION TECHNIQUE

The adaptation process involved a) the sourcing of information for the customising of two specific modules (Module One and Two); b) establishing an expert steering committee; c) conducting focus groups with population sub-groups to aid the adaptation process; d) translating materials; e) piloting the adapted version before implementation in the target population; and f) training of facilitators as part of the adaptation process. The steps taken in this study follows recommendations put forward by literature (Bennett et al., 2002; Leerlooijer et al., 2011; Papas et al., 2010; Saleh-Onoya et al., 2008; Wingood & DiClemente, 2008).

4.2.1.1. Assessment and selection of an evidence-based prevention programme

First and foremost, it is vital to assess the needs of the target population (Parker et al., 2012; Wingood & DiClemente, 2008). This process is necessary to provide a contextual background to the selection process, suggesting that selection should be guided by a consideration for local cultural contexts. Programme implementers are advised to conduct a formative evaluation or needs assessment to define the target population, its culture and behaviours and risk factors (McKleroy et al., 2006; Veniegas, Kao, & Rosales, 2009). This information is used to select an appropriate evidence-based programme that matches the characteristics of the target population. Selection of Team Awareness was therefore guided by the systematic review process followed and discussed in chapter 3 of this thesis as well as literature that has repeatedly reported a high lifetime prevalence of substance abuse in the general South African population (Herman et al., 2009). In addition, anecdotal information gleaned from the local participating municipality in this research study indicated a problem with substance abuse in the workplace. Although the Human Resources division and EAP services were not able to formally quantify the extent of substance abuse problems they reported high levels of substance abuse, reflected in a high incidence of formal referrals to the EAP.

4.2.1.2. Establish a steering committee or an expert panel

According to multiple literature sources (McKleroy et al., 2006; Papas et al., 2010; Saleh-Onoya et al., 2008; United Nations Office on Drugs and Crime (UNODC), 2009; Wingood &

DiClemente, 2008) establishment of a cultural adaptation expert team is essential in the adaptation process. Such a team is often tasked with planning and overseeing the implementation of the adaptation process to ensure balance between the needs of the target population and fidelity to the evidence-based programme. The team selected to form part of the expert panel in this study consisted of the programme developer, the researcher, subject matter experts (EAP expert, an expert in issues related to substance abuse in the workplace) as well as stakeholders consisting of senior personnel within the safety and security division. The use of a diverse group of stakeholders follows recommendations from Beyer and Trice (1982) who recommend contacting managers, observing interactions in the workplace, and engaging programme users early on so that they feel part of the research process (Bennett et al., in press). Throughout the adaptation process the steering/expert panel commented on programme materials. The entire duration of the adaptation process was four months.

4.2.1.3. Information Gathering

In preparation for the focus groups, the researcher and steering committee set out to gather information that could be used to adapt modules addressing the “relevance of the training” and the module addressing “policy issues”. Additional information obtained from the participating municipality was specific to wellness efforts at the workplace. These included information on the current workplace substance abuse policy, the EAP policy, and other health and behavioural benefits offered by the employer, such as medical aid benefits, trauma briefing and other policies including the company HIV protocol. Collation of this information and its subsequent incorporation is advocated by the programme developer and other researchers (Papas et al., 2010; Saleh-Onoya et al., 2008; Wingood & DiClemente, 2008), and forms a crucial part of the adaptation process, as it relates directly to the adaptation of Modules One and Two of the selected intervention.

4.2.1.4. Translate and adapt materials to the local context

Adapting the prevention programme, the monitoring and evaluation instruments and the materials into the local contexts is a time-consuming and complex process. Sufficient time and resources need to be allocated to ensure that key messages are not lost in the translation process (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA),

2010; United Nations Office on Drugs and Crime (UNODC), 2009). Literature suggests that once the target population, in this case target organisation, has been selected it is essential to begin engaging the expert panel, and conduct focus groups with various types of employee sub-populations (Bennett et al., in press; Bennett et al., 2002). Employee sub-population groups are brought together to ensure that the programme developer and implementers understand differences in group subcultures. It is particularly important to implement several such groups in large organisations (200 or more workers), because it cannot be assumed that employee populations are uniform or homogenous (Bennett et al., 2000). The information gathered in the focus group discussions together with expert panel suggestions were all synthesised and used to adapt the programme materials (United Nations Office on Drugs and Crime (UNODC), 2009).

The translation and adaptation of materials followed three processes. Focus groups with employee sub-populations were conducted; the expert steering committee provided recommendations and oversaw the adaptation process; and those employees who participated in the pilot study also provided useful insights into recommended amendments.

- **Focus groups**

Focus group discussions were held with employee sub-populations and an interview guide (see Annexure F) was used to direct the sessions. Focus group participants were not part of the participants selected to participate in the trial. Focus group participants also had to complete a consent form (see Annexure G) to participate in the focus group discussions. Four focus groups were held with diverse employee sub-populations:

- a) A woman's group - MP
- b) A mixed gender group - MP
- c) A mixed gender group - MF
- d) A woman's group - MF

Prior to forming the focus groups, senior management within each participating division were asked to officially distribute a notice requesting their participation. Unfortunately, no

employees came forward which resulted in the supervisor randomly selecting participants from a list of all employees. Individual employees were then sent an email to notify them of selected participation; this was followed up with a telephone call explaining the purpose of the focus groups. There was initial hesitation and reluctance to participate in the focus group, however extensive explanations on the purpose of the groups led to participating persons feeling more at ease. Participants were guided on their role in the focus group. The role of the researcher, project staff and fellow participants were also delineated using the programme developer's guidelines. Participants in the focus groups were also orientated to the content of the Team Awareness intervention, and asked to comment on training material in respect of relevancy to local contexts.

Following the focus group discussion, the following adaptations were incorporated (See Annexure K) for actual slide modifications (pre and post descriptions are provided in the appendices):

- a) To fit the local conditions in the country, the province and in the workplace, slides reflecting the extent of substance abuse in South Africa were added.
- b) Concerns around gender and the workplace emerged in focus groups. Women (from both divisions) were of the opinion that they are employed in a male dominated environment which caters solely for the needs of men. They felt that examples should reflect both male and female experiences, to help sensitise male colleagues to issues that affect and impact mainly women. This ranged broadly from design of uniforms to harsh realities in the field, which do not cater for the needs of women and situations around childcare that impact mainly on women. Issues pertaining to sexual harassment also emerged and the company sexual harassment policy was added to the list of policies and services provided for reference purposes.
- c) Information on HIV and risky sexual behaviour were added as examples of risk factors linked to the use of substances.
- d) Substance abuse policies/ HIV policies at the targeted workplace were collected and used to adapt the policy questions in the slides and game board. Policies were copied to hand out in the workshops on completion of Module Two.
- e) Information of EAP/EWP programmes of relevant workplaces were collected and incorporated into the slides.

f) Terminology and exercises were amended. For instance, references to cannabis were changed to dagga and methamphetamine changed to reflect 'Tik' (the primary substance of abuse in the Western Cape). In personal exercise 1: The big picture - the chart of South Africa was inserted in the place of the chart of the USA and words such as state were replaced with province.

g) The researcher also asked participants for suggestions on how best to accommodate fears of participating and attending the sessions. Suggestions ranged from:

- Proper explanations in respect of what Team Awareness is about
- Adequate marketing
- Sufficient notification to attend the meeting.
- Encourage participants to openly speak their minds and not feel pressurised to talk.
- Affirm that all information will be kept strictly confidential and the processes to do so.
- The executive director of the safety and security division should send a directive to all participating managers and staff.
- A non-disclosure should be signed between the implementing organisation and the organisation outlining the limitations of the information that will be disclosed in the final report to the organisation (see Annexure L).
- Provision of incentives such as a meal.

- **Expert Group**

Advisors helped to eliminate exercises that might not appeal to workers and shared their personal experiences of working in South African workplaces. The committee also provided valuable insights on worker substance abuse and suggested the slides reflecting statistics should be kept to a minimum since they can act as a distraction. Several of the members of the expert group cautioned against the length of time required to present Team Awareness. Although it was not possible to shorten the programme time (eight hours is part of the core requirement), it was agreed that timeframes would be more closely adhered to, including the length of breaks. Experts also recommended that incentives be used to encourage participation to make participants feel 'special'.

4.2.1.5. Pilot

The customised version of Team Awareness was adapted and piloted among 20 employees of a safety-sensitive company in Cape Town. Although the scope of work of the pilot company differed from that of the participating municipality, both companies fit the profile of being a safety-sensitive workplace. The intervention sessions with the pilot company took place on 27 June and 4 July 2011. The purpose of the pilot session was not solely the testing of the pilot version of Team Awareness but also to simultaneously allow Team Awareness facilitators a 'dry run' of the programme. Comments from the pilot study were taken on board and used to further adapt Team Awareness.

Some of amendments proposed by pilot participants related to:

- More visual aids with the theory and if possible, video clips to present examples of specific situations. Add more graphic examples. Following this, the slides were adapted to include more pictures to illustrate scenarios. Unfortunately it was not possible to add video clips due to a lack of resources.
- More examples of possible disasters that could happen when you know of colleagues using substances and do not follow up on situations. Additional examples were considered and added.
- Although English is the official language, consideration should be given to having a translator in instances where language may be a barrier. The researcher recruited a Xhosa speaking fieldworker to assist with translations in the event that they were required.
- Participants requested incentives for attendance, for instance a meal. A meal was provided at training sessions.

Some of the amendments following the debriefing sessions with the interventionists are listed below:

Table 6: Amendments following the pilot.

Interventionist		Modification
Nicola Visser	4 July 2011	<p><u>Module 3: Group Decision-Making and Tolerance</u></p> <p>Group Tolerance (Afrikaans en Engels) 'vraelyste moet tweetalig wees' (<i>questionnaires should be in the vernacular</i>).</p> <p>'Die vrae op die module is nie dieselfde as die vrae on die group aktiewiteit nie'. (<i>The questions in the modules are not the same as those outlined in the group activities</i>).</p> <p>Goeie voorbeeld wat moet ingesluit word, is oor drankbestuur. Een van die groeplede het die volgende voorbeeld voortgesit 'individue en die polisie 'tolerate' drankmisbruik' deur die persoon laat huis toe te bestuur wanneer hulle onder die invloed is' (<i>The following example should be included. This suggestion was made by one of the group leaders: the police tolerate substance abuse, by allowing an intoxicated person to drive home</i>)</p> <p><u>Module 5</u></p> <p>Disclosure – and example that can be used: Communication was lacking in the workplace and relevant services were not always easily available, this has led to suicide of a staff member requiring assistance.</p>
Karin van der Merwe	4 July 2011	<p><u>Module</u></p> <p>The Strengths Scale, a handout should be in bigger print Handout not the same as slide</p>
Nicky Metcalf		<p><u>Module 5</u></p> <p>Excellent participation</p> <p><u>Module 6 - The Nudge Module</u></p> <p>Role plays – Participants do not always complete the Role Plays, some have difficulty in understanding the notion of a role play, and instead they write down comments. Explain the concept of role plays.</p> <p>Generally, the participants mentioned Nudge as one of the most positive aspects of the training programme.</p>
Tertius Cronje	27 June 2011	<p>Module 1: Would appear that the team considers themselves as low risk - high strength</p> <p>Seven principles - excellent participation</p> <p>Personal exercise 3 – given to take home</p>
Karin (Module 1)and Nicole (Module 2)		<p>The Big Picture Exercise: change to <u>province</u> not <u>state</u></p> <p><u>Personal Exercise2</u> - Risk and Strength score, staple red and green cards on sheet.</p>

4.3. PROGRAMME FIDELITY

Ensuring that interventions are implemented as intended is particularly important if evidence-based and theory-driven modules are to be replicated in differing settings (Leff et al., 2009; Stead et al., 2007). Implementing evidence-based programmes with a high degree of fidelity ensures that the programme produces the most consistent and positive effects. A review of literature on implementation fidelity remains limited despite an increasing number of researchers and programme implementers advocating for fidelity (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), 2010; Leff et al., 2009; Stead et al., 2007). There is also the debate around programme fidelity and programme fit (cultural adaptations) (Castro, Barrera, & Martinez, 2004; Stead et al., 2007). Some scholars suggest that interventions that are “culturally blind” will fail to prompt participation, and therefore compromise good programme effects. To avoid comprising programme fidelity, the researcher adhered to the guidelines on fidelity assurance set down by the programme developer. This followed the adaptation processes described above, and included the training of programme facilitators. The process followed in the training of facilitators is described in the next section:

4.3.1. TRAINING OF PROGRAMME FACILITATORS

Team Awareness training was facilitated by the programme developer and took place over a period of five days from 31 January 2011 to 4 February 2011. Team Awareness training was fashioned using the ‘experiential learning’ method of training with the programme developer conducting training with an actual live audience (trainees looking in - fishbowl format). Eight interventionists were trained as team awareness facilitators. Eleven employee participants, not from the participating company or pilot company, formed part of the learning exercise and were recruited to receive the intervention.

The training schedule followed is depicted in the table below:

Table 7: Training schedule for interventionists

Practice schedule: 31 January 2011 – 4 February 2011			
Monday	Welcome and Introduction		Programme developer and researcher
Monday - afternoon	Fishbowl session 1	Module 1/2	Programme developer presented modules one and two to audience, with trainees watching in and conducting fidelity checks from the checklist provided.
Tuesday -morning	Debrief/Questions and Answers	Module 1/2	Trainees were debriefed iro their observances as well as the programme theory content
	Practice session	Module 1	Selected trainees presented module one. Fidelity checklists were completed
Tuesday - afternoon	Practice session	Module 2	Selected trainees presented module two. Fidelity checklists were completed
	Questions and Answers		
Wednesday - morning	Fishbowl session 2	Module 3-6	Programme developer presented modules three and six to audience with trainees watching in and conducting fidelity checks from the checklist provided.
Wednesday - afternoon	Debrief	Module 3-4	Trainees were debriefed iro their observances as well as the programme theory content
	Practice session	Module 3	Selected trainees presented module three. Fidelity checklists were completed
Thursday – morning	Questions and Answers		
	Practice session	Module 4	Selected trainees presented module four. Fidelity checklists were completed
	Practice session	Module 5	Selected trainees

			presented module five. Fidelity checklists were completed
	Debrief	Module 3-5	Review of practice sessions and peer reviews
Thursday - afternoon	Practice session	Module 6	Selected trainees presented module six. Fidelity checklists were completed
	Debrief	Module 6	Review of practice sessions and peer reviews
	Practice	Module 1-6	Selected trainees presented module one to six. Fidelity checklists were completed
	Debrief	ALL	Review of practice sessions and peer reviews

All trainees had the opportunity of presenting different modules at least three times during the course of the training. Two venues (room A and room B) were used for practice sessions. Each venue had 2 facilitators, 2 observers and 1 guide (either the programme developer or the researcher).

Following the training sessions, the researcher scheduled four day booster practice and discussion sessions (on one day for the next four months) with the interventionists. The booster sessions were used to practice facilitation as well as an opportunity to discuss the adaptation needs of materials. Booster practice and discussions were centred on one or two modules at a time. These sessions took place on the 11 March 2011, 15 April 2011, 13 May 2011 and 3 June 2011. The format for these booster sessions were as follows: Each interventionist was given a module to prepare and co-facilitate with another interventionist. All interventionists were required to complete peer rating forms to check if their fellow interventionists adhered to fidelity. On 15 April, 13 May and 3 June each facilitator was given a module to prepare and facilitate independently. A debriefing session was held after each module was presented. Care was taken to ensure that each facilitator had the

opportunity to present a different module for each follow-up session. Interventionists received certificates on completion of their training.

4.4. LIMITATIONS ENCOUNTERED

Despite the successful adaptation of Team Awareness, the process was not without limitations. Team Awareness roll-out in participating companies did not commence soon after the interventionists received formal training. This was due to challenges encountered in recruiting companies to participate in the study. As a result there was a seven month waiting period before the study could formally commence. Wegner and colleagues recommend that implementation take place immediately after training to prevent lowering fidelity standards (Wegner et al., 2008). In the context of this study and due to circumstances beyond the control of the researcher, strict timelines could not be adhered to. To buffer against interventionists losing the essence of their training, the researcher and programme developer introduced the four booster sessions to act as a continual training refresher component.

Initially there was ambivalence among experts around the feasibility of the programme in the South African workplace. Main concerns related to the amount of time required to implement the programme, and the organisational perceptions of what constitutes prevention. Expert concerns were addressed through brainstorming potential 'methods' for marketing the programme to potential participant organisations. Solutions centered on placing emphasis on the importance and worthiness of evidence-based prevention programmes. It was agreed that initial consultations with potential participant companies would be attended by the researcher, an expert panel member and one of the researcher's PhD supervisors. Presentations to these companies should, as far as possible, highlight the importance of addressing the extent of substance abuse and substance-related HIV in South Africa, adopting evidence-based best practices and the importance of prevention initiatives. In addition, cognisance was taken of organisational concerns, for example intervention starting times, particularly for those employees within the MF division. The organisation also requested that pre-and post-intervention testing not be scheduled for the months of

December and January, since these were the summer months and therefore the busiest. Appropriate compromises were considered. These constraints are not unique to the South African workplace context and have been reported in other workplace settings (Hersch et al., 2000).

4.5. CHAPTER SUMMARY

This chapter described the adaptation of the Team Awareness intervention programme for use in a differing cultural context for which it was initially designed. The steps followed in adapting Team Awareness related to 1) understanding the South African cultural context and selecting an intervention; 2) establishing a steering expert committee or panel, 3) gathering information relating to the participating workplace and 4) adapting material through the process of focus group discussion with participants and subsequent piloting of programme content. Fidelity processes have also been described in this chapter.

Chapter 5 presents the results for the baseline findings of the clustered randomised control trial study. This chapter focuses on the extent of substance abuse and substance-related HIV risk behaviours among employees.

CHAPTER 5: BASELINE STUDY RESULTS

5.1. INTRODUCTION

This chapter presents the baseline results (Time 1 data) of a clustered randomised control trial (results described in chapter six). A total of 325 employees from two divisions (MF and MP) within the Safety and Security Department of a local municipality participated in the study. Presented here are the analyses of the results of the baseline assessment. Baseline data were collected before the intervention was implemented and will be used to provide a comparison for assessing programme impact following the collection of time two and three data (chapter six).

5.1.1. STUDY OBJECTIVES

The objective of Phase 2 of this study was to describe the nature and extent of substance abuse and substance-related HIV risk behaviours among employees working in safety-sensitive jobs within two divisions (MF and MP) of a local municipality in the Western Cape.

Sub-Objectives:

The descriptive objectives for this study were as follows:

- a) To describe substance abuse by age and gender.
- b) To estimate the prevalence of problematic⁷ substance use among employees.
- c) To estimate the prevalence of going to work with a hangover or calling in sick because of a hangover, among employees.
- d) To describe employee perceptions of the on-site Employee Assistance Programme and the in-house substance abuse policy.
- e) To describe employee perceptions of co-worker substance abuse.
- f) To describe employee perceptions of organisational wellness, job satisfaction, stress and perceived job-related risks at work.

⁷ In the context of this thesis the researcher uses the term 'problematic' in relation to substance abuse as a reference to two key variables specifically, i) number of days in past 30 days having more than five drinks and ii) a positive CAGE score.

- g) To describe employee perceptions of stigma towards persons with a substance abuse problem.
- h) To estimate the type and prevalence of substance-related HIV risk behaviours among employees.

The analytical objectives for this study are as follows:

- i) To determine if risk factors such as the experience of individual stress, group stress, group cohesion, perceived risk at work, job satisfaction or a climate favourable to drinking contribute to problematic substance use.
- j) To investigate the relationship of absenteeism and presenteeism to problematic substance use among employees.

5.2. DEMOGRAPHIC CHARACTERISTICS OF POPULATION

5.2.1. DEMOGRAPHIC INFORMATION

Three hundred and twenty-five employees were surveyed at baseline. Of the 325, 197 were from division MP and 128 were from the MF division (see table 8). The sample consisted of largely Afrikaans speaking participants (41.0%), English speaking participants (30.2%) and Xhosa speaking participants (21.2%). The mean age of participants was 39 years (SD = 53.8). A large proportion of participants were married (62.8%). Participating employees were more likely to be male (86.7%) than female (13.0%), with the majority (76.0%) having matric (Grade 12) as their highest level of education. Eighteen per cent of participants have some form of tertiary level education. In respect of length of employment within the divisions, the most common category of work duration was 5-10 year service history (46.5%).

Table 8: Demographic Information

	Combined Sample		MF		MP	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Division						
MF	128	39.3	-	-	-	-
MP	197	60.6	-	-	-	-
Total	325	100	-	-	-	-
Gender						
Male	281	86.7	109	85.2	172	88.2
Female	42	13.3	19	14.8	23	11.8
TOTAL	323*	100	128	100	195	100
Age in Years						
20-30 Years	55	17.0	36	28.1	19	9.7
31-40 Years	197	60.8	48	37.5	149	76.0
41-50 Years	61	18.8	34	26.6	27	13.8
51-60 Years	11	3.4	10	7.8	1	0.5
TOTAL	324*	100	128	100	196	100
Language						
Afrikaans	134	41.2	28	21.9	106	53.8
Bilingual	1	0.3	0	0	1	0.5
English and Afrikaans	14	4.3	5	3.9	9	4.6
English	98	30.2	66	51.6	32	16.2
Sotho	4	1.2	2	1.6	2	1.0
Unknown	4	1.2	1	0.8	3	1.5
Xhosa	69	21.2	25	19.5	44	22.3
Zulu/Swazi	1	0.3	1	0.8	-	-
TOTAL	325	100	128	100	197	100
Education*						
GR 7	1	0.3	1	0.9	-	-
GR 9	2	0.6	2	1.7	-	-
GR 10	14	4.5	14	12.0	-	-
GR 12	235	76.1	85	72.6	150	78.1
Tertiary	57	18.4	15	12.8	42	21.9
TOTAL	309*	100	117	100	192	100
Marital Status*						
Single	72	22.5	40	31.7	32	16.5
Married	214	66.9	76	60.3	138	71.1
Divorced	32	10.0	9	7.1	23	11.9
Widowed	2	0.6	1	0,8	1	0.5
Length of employment*						
6 months to 1yr	1	0.3	1	0.8	-	-
1-5 years	46	14.4	31	24.6	15	7.7
5-10 years	151	47.2	24	19.0	127	65.5
10-15 years	64	20.0	21	16.7	43	22.2
More than 15 years	58	18.1	49	38.9	9	4.6
TOTAL	320*	100	126	100	194	100

*Gender missing cases 2; Age in years missing cases 1; Education missing cases 16; marital status missing cases 2; Length of employment missing cases 5

5.2.2. COMPARISON OF DEMOGRAPHIC INFORMATION BY DIVISION

Table 9 below displays the comparisons of the demographic variables based on the divisions (MF and MP). These comparisons utilised mann-whitney tests on the variable age, and chi-square tests of association on the variables gender, education and length of employment. No difference was found between the divisions for age ($p = 0.105$) and gender ($p = 0.426$). A statistically significant difference was however found on level of education ($p = 0.000$) and length of employment ($p = 0.000$) with MP employees being more educated, but having a shorter length of employment when compared to MF employees.

Table 9: Demographic information by division

Variable	Group	N	M (SD)	Median	P value
Age	MF	128	M = 37.28 (SD = 8.637)	37.50	0.105
	MP	197	M = 40.48 (SD = 68.80)	35.00	
			%		
Gender	MF	128	Male (85)		0.426
			Female (15)		
	MP	197	Male (87.3)		
			Female (11.6)		
Education	MF	117*	Gr 7-10 (14.5)		<0.000
			Gr 12 (72.6)		
			Tertiary (12.8)		
	MP	192*	Gr 7-10 (0)		
			Gr 12 (78.1)		
			Tertiary (21.8)		
Length of Employment	MF	126*	0-5 yrs (25.3)		<0.001
			5-10 yrs (19)		
			10-15 yrs (16.6)		
			>15 yrs		

			(38.8)		
	MP	194*	0-5 years (7.7)		
			5-10 years (65.4)		
			10-15 years (22)		
			>15 years (4.6)		

*missing numbers

5.3. PRIMARY SUBSTANCE OF ABUSE: ALCOHOL

5.3.1. PARTICIPANT USE OF ALCOHOL

Three variables were used to measure any alcohol use and problematic alcohol use. The first variable asked the participant to respond to the question i) "How often do you have a drink containing alcohol (frequency of use)?" The second and third variables measured ii) how many days in the past 30 days a participant had any use of alcohol; and iii) how many days (in the past 30 days) an employee had more than five drinks. Figures 6 and 7 depict the distribution of past 30 day drinking (any use and ≥ 5 drinks).

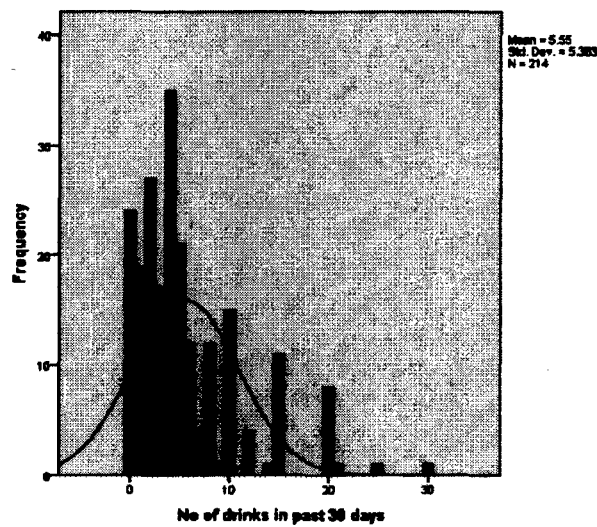


Figure 6: Days in the past 30 days where participant had any use of alcohol

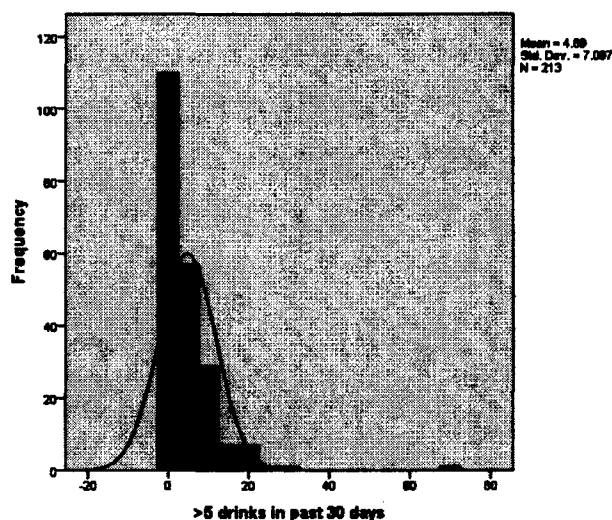


Figure 7: Days in past 30 days having >5 drinks

Of the 325 employee participants surveyed, 78.9% reported past 30 day any use of alcohol and 21.1% reported never using alcohol. Of those participants who reported using alcohol, 18.0% indicated that they used alcohol less than monthly, 23.4% reported monthly use of alcohol and a higher percentage (34.0%) reported using alcohol on a weekly basis. A small percentage of employees indicated daily or almost daily use of alcohol (3.5%). There were no significant differences in frequency of use between MF and MP employees ($\chi^2 = 4.174$, $p = 0.383$) (see table 10). Considering that the data is clustered and to determine whether clustering has an effect on the result, the researcher adjusted for clustering. No significance was found ($F=0.33$, $p=0.568$).

Table 10: Alcohol: How often do you have a drink containing alcohol (by division)

FREQUENCY	Combined		MF		MP	
	N	%	N	%	N	%
Never	54	21.1	20	19.0	34	22.5
Less than monthly	46	18.0	22	21.0	24	15.9
Monthly	60	23.4	22	21.0	38	25.2
Weekly	87	34.0	35	33.3	52	34.4
Daily or almost daily	9	3.5	6	5.7	3	2.0

TOTAL	<u>256*</u>	<u>100.0</u>	<u>105</u>	<u>100.0</u>	<u>151</u>	<u>100.0</u>
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*69 missing cases

5.3.2. PAST 30 DAY USE OF ALCOHOL

When computed for the entire sample (MF and MP combined), the average number of days spent drinking (any use) in past 30 days was reported as 5.55 days (SD = 5.383). The average number of days where employees had more than 5 drinks in the past 30 days was recorded as m=4.69 (SD = 7.097). Seventy percent of employees reported that there was at least one day, in the past 30 days, where they had more than 5 drinks.

5.3.2.1. Alcohol use by division (MF and MP)

Mann Whitney tests (see table 11) were used to test for group differences between MF and MP employees on past 30 day any use of alcohol and past 30 day use of alcohol (> 5 drinks). Poisson regression analysis was used to further adjust for clustering. There was no significant difference in past 30 day (any use) drinking or in past 30 days drinking of more than five drinks for MF compared to MP employees on either of the statistical tests.

Table 11: Past 30 day any alcohol use by division

	Group	M	Standard Deviation	Median	z	p	Adjusted for clustering F-value	
							F	p
Days having any use of alcohol in the past 30 days	MF	5.53	5.482	4.00	-0.179	0.858	0.23	0.634
	MP	5.56	5.333	4.00				
Days having >5 drinks in the past 30 days	MF	4.54	5.966	2.00	-0.769	0.442	0.16	0.693
	MP	4.81	7.831	3.00				

5.3.3. CAGE SCREENING TEST FOR PROBLEMATIC ALCOHOL USE

Table 12 below depicts the CAGE cut-off scores. Of those employees who use alcohol, 80% scored ≤ 1 on the CAGE test. A further 19.6% of all employees surveyed received a CAGE score of ≥ 2 , indicating symptoms of alcohol problems. There were no significant differences

in the scores for divisions MF (m=0.67; SD = 1.081) and MP (m= 0.69; SD = 1.11) (z = -.034, p= 0.973), and no significant differences reported when data was adjusted for clustering (F = 0.02, p = 0.888).

Table 12: CAGE Scores

CAGE SCORE		Combined		MF		MP	
		N	%	N	%	N	%
	0	139	64.7	58	64.4	81	64.8
	1	34	15.8	15	16.7	19	15.2
	2	21	9.8	9	10.0	12	9.6
	3	14	6.5	5	5.6	9	7.2
	4	7	3.3	3	3.3	4	3.2
	Total	215*	100.0	90	100	125	100

* 110 missing cases (38 MF and 72 MP)

Employees were asked whether they thought they had a drinking problem, 6.5% reported “yes”, and a further 6.5% indicated that they “may” have a problem with alcohol.

5.3.4. DRINKING ALCOHOL AT WORK

Employees were asked whether in the last six months they have had one or more drinks at work. Six per cent of employees indicated that they have had one or two drinks in the past 6 months during their lunchtime break. Four per cent of employees reported that they have had more than two drinks during their lunch hour at work in the past 6 months.

MF Employees were less likely than MP employees to have had a one or two drinks at work (3.3 % vs 8.0%, respectively). MP employees were more likely than MF employees to have more than two drinks during lunch (4.8% vs 3.3% respectively) although the differences were not statistically significant (See table 13 below).

Table 13: Drinking alcohol at work

	Group	n	M	SD	Median	z	p	Adjusted for clustering	
								F-value	p
Having one or more drinks whilst at work in last 6 months.	MF	90	0.07	0.391	0.00	-1.407	0.159	1.56	0.213
	MP	125	0.15	0.554	0.00				
Having more than two drinks whilst at work in last 6 months	MF	90	0.06	0.347	0.00	-0.532	0.595	0.05	0.831
	MP	125	0.08	0.393	0.00				

5.3.5. WORK AFFECTED BY A HANGOVER AND CALLING IN SICK

Table 14 below describes the likelihood of an employee going to work with a hangover. Thirty-one per cent of employees indicated that they went to work with a hangover. Of the 31 per cent who reported going to work with a hangover, 18.7% reported doing so less than monthly, 8.4% indicated going to work with a hangover on a monthly basis and 3.7% of employee participants indicated that they do so on a weekly basis.

In respect of missing work or calling in sick because of a hangover, 16.7% employee participants in total reported having called in sick in the last 6 months because of a hangover (see table 15).

Divisional differences in going to work with a hangover or calling in sick were however noted between MF and MP employees (see tables 14 and 15). Although MF officials were more likely to go to work with a hangover (36.7%) when compared to their MP (27.4%) counterparts, the difference was not significant ($\chi^2 = 2.074$, $p = 0.150$) ($F = 2.48$, $p = 0.117$).

Table 14: Going to work with a hangover (%)

			DIVISION		Total
			MF	MP	
Going to work with a hangover	Never	n	57	90	147
		%	63.3	72.6	68.7
	Go to work with hangover	n	33	34	67
		%	36.7	27.4	31.3
Total		n	90	124	214
		%	100	100	100

In contrast, MP employees were more likely to call in sick (24.8%) when compared to their MF colleagues (5.5%). A chi-square test confirmed that MP officials were significantly more likely to call in sick when compared to MF officials (see table 5.9) ($\chi^2 = 13.901$, $p = 0.000$). Adjusting for clustering confirmed a significant difference between MF and MP employees ($F = 9.42$, $p = 0.002$).

Table 15: Calling in sick because of a hangover

			DIVISION		Total
			MF	MP	
Calling in sick because of hangover	Never	n	85	94	179
		%	94.4	75.2	83.3
	Call in sick with hangover	n	5	31	36
		%	5.6	24.8	16.7
Total		n	90	125	215
		%	100	100	100

5.3.6. PROBLEMATIC SUBSTANCE USE, BY GENDER

The number of days having any use of alcohol and drinking more than 5 drinks in the past 30 days was higher for males than females, and this difference was found to be statistically significant. Males on average drink more than their female counterparts (Table 16).

Table 16: Days having more than five drinks – gender comparisons

	Gender	n	M	SD	Median	z	p	Adjusted for clustering F-value	
								F	p
Days in the past 30 days having any alcohol use	M	90	5.62	5.297	4.00	-1.170	0.242	12.86	<0.0001
	F	125	4.89	6.548	4.00				
Days having >5 drinks in past 30 days	M	90	4.86	7.221	2.00	-2.522	0.012	50.83	<0.0001
	F	125	2.53	5.631	1.00				

Men were more likely to have a CAGE score with a cut-off >2 when compared to women (see table below). The mann-whitney test yielded no significant result ($z = -1.576$, $p = 0.115$), however, adjusting for clustering yielded significance ($F = 0.457$, $P = 0.033$).

Table 17: CAGE by Gender

			Gender		
			Female	Male	
CAGE Score	0	n	15	123	
		%	78.9	63.4	
	1	n	3	30	
		%	15.8	15.5	
	2	n	1	20	
		%	5.3	10.3	
	3	n	0	14	
		%	0.0	7.2	
	4	n	0	7	
		%	0.0	3.6	
	Total		n	19	194
			%	100.0	100.0

5.3.7. THE RELATIONSHIP BETWEEN LENGTH OF EMPLOYMENT, AGE AND ALCOHOL USE

5.3.7.1. Past 30 day days having >5 drinks in past 30 days and CAGE, by age

Poisson regression analysis adjusting for clustering found a significant association between age and days having greater than 5 drinks in the past 30 days ($F = 3.29, p = 0.012$). Older participants are more likely to indicate any use of alcohol in the past 30 days and more likely to have had more than five drinks on days in the past 30 days.

In respect of age and a ≥ 2 score on CAGE, the study found no significant association between age and a greater than two score on the CAGE variable ($F = 0.56, p = 0.5751$).

5.3.7.2. CAGE and days having >5 drinks in past 30 days by length of employment

Table 18 displays the results of significance tests between length of employment and a positive score on CAGE. The variable 'length of employment' was recoded into a categorical variable '0 -15 years and 'greater than 15 years'. Those that scored ≤ 1 on CAGE were more likely to have less than 15 years employment. Those with score ≥ 2 were more likely to be employed for between 0 to 15 years but this finding was not significant on chi-square test ($\chi^2 = 3.926; p = >0.05$) or when adjusting for clustering ($F = 3.43, p = 0.073$). However, there was a significant association between days having >5 drinks in past 30 days and length of employment. Employees that drank more than 5 drinks in past 30 days had a longer length of employment ($F = 2.98, p = 0.003$).

Table 18: Length of employment and employee CAGE scores

		LENGTH OF EMPLOYMENT		TOTAL
		0-15 years	>15 years	
Low Risk (Cage 0,1)	n	131	81	212
	%	82.91	85.26	83.79
High Risk (Cage >2)	n	27	14	41
	%	17.09	14.74	16.21
TOTAL	n	158	95	253
	%	100	100	100

5.3.8. THE ASSOCIATION OF AGE, LENGTH OF EMPLOYMENT AND DAYS HAVING MORE THAN 5 DRINKS IN PAST 30 DAYS WITH A >2 CAGE SCORE.

The results suggest the number of days on which participants had more than 5 drinks, was a significantly associated to problematic drinking or a high score on CAGE (see table 19). Age and length of employment were not significant predictors when combined in the model.

Table 19: Associations of days having >5 drinks, age and length of employment to a >2 CAGE score

Independent Variables	Model 1 ⁸				Model 2 ⁹				Model 3 ¹⁰				Model 4 ¹¹			
	Estimate	SE	t Value	P value	Estimate	SE	t value	p value	Estimate	SE	t value	p value	Estimate	SE	t value	p value
Days having more than 5 drinks	0.134	0.029	20.14	<.0001									0.133	0.030	4.41	<.0001
Age					0.014	0.025	0.56	0.5751					0.011	0.034	0.32	0.752
Length of Employment (0-15 years)									0.176	0.358	0.49	0.624	0.152	0.431	0.35	0.726

⁸ Model 1: the association between days having more than 5 drinks and a >2 CAGE score.

⁹ Model 2: the association between age and a >2 CAGE score.

¹⁰ Model 3 : the association between length of employment and a >2 CAGE score.

¹¹ Model 4: entered into the model were all three independent variables (more than five drinks, age, employment), and the association to a >2 CAGE score was explored.

5.4. RELATIONSHIP BETWEEN USE OF ALCOHOL AND THE EXPERIENCE OF INDIVIDUAL STRESS, GROUP STRESS AND GROUP COHESION

5.4.1. INDIVIDUAL STRESS

In relation to individual stress, factor analysis confirmed a single factor solution (Kaiser-Meyer-Olkin measure of sampling adequacy, 0.824) and Bartlett's Test of Sphericity ($\chi^2=677.767$, $p < 0.000$). A reliability test was conducted with good reliability (Cronbach alpha's score of 0.859). The average employee indicated that they 'sometimes' experienced individual stress as a result of work ($M=2.9$; $SD = 0.950$). When analysing single items within the scale, 25% of participants reported feeling tense and anxious as a result of their work. The majority of participants reported (51.1%) that they sometimes felt tense and anxious. Participants also did not feel that the degree of individual stress encountered was more than the level of stress encountered by their co-workers.

There was a statistically significant difference between the experience of stress by drinkers and abstainers, and when adjusting for clustering the results suggest that drinkers are more likely to experience individual stress (see table 20). There were no divisional differences reported on the individual stress variable (see table 21).

5.4.2. GROUP STRESS

The variable group stress assessed several dimensions of stress experienced in the group. Factor analysis confirmed a single factor solution (Kaiser-Meyer-Olkin, 0.742) and on Bartlett's Test of Sphericity ($\chi^2 = 422.527$, $p < 0.000$). Internal reliability as measured by Cronbach's alpha was 0.804.

The average of items was used as a composite measure of the experience of group stress, and the mean score was ($m= 3.21$; $SD = 0.846$). Single item analysis on the variable 'tension exists between employees in my team', however suggests that 44.6% of employees agreed that tension existed within their teams. There was a statistically significant difference

between the mean experience of group stress by abstainers and that of drinkers (see table 20 below). No significant divisional differences were however reported (table 21).

5.4.3. GROUP COHESION

For group cohesion the average of the items was used as a composite measure of perceived group cohesiveness, which had good internal consistency as measured with Cronbach's alpha ($\alpha = 0.715$). Kaiser-Meyer-Olkin test confirmed a score of (0.688) and Bartlett's Test of Sphericity ($\chi^2 = 450.403$, $p = <0.000$) confirming a single factor solution. The mean group cohesion score was ($m = 3.37$; $SD = 0.701$).

On considering the single-item variable 'people in my team feel stress and frustration because of each other' the researcher found that 35.3% participants agreed with the question. 42.4% indicated that they sometimes felt stress and frustration. In addition, close to half of participants (44.3%) indicated that they were aware of signs of strain amongst fellow colleagues. In relation to group cohesion, drinkers were more likely to experience lesser degrees of group cohesion when compared to abstainers. We can conclude that there exists a statistically significant difference between the degree of group cohesion between the two groups. Drinkers are more likely to experience lower levels of group cohesion when compared to abstainers (see table 20). No significant divisional differences were reported (see table 21).

Table 20: Relationship between use of alcohol and the experience of individual stress, group stress and group cohesion

	Abstainers vs Drinkers	N	Mean	Standard Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Individual Stress	Abstainers	54	2.67	0.944	2.77	-1.816	0.069	4.10	0.044
	Drinkers	201	2.96	0.94	2.80				

Group Stress	Abstainers	54	2.97	0.868	3.00	-1.784	0.074	5.11	0.025
	Drinkers	202	3.2	0.828	3.25				
Group Cohesion	Abstainers	54	3.59	0.713	3.60	-2.888	0.004	8.58	0.004
	Drinkers	202	3.29	0.679	3.20				

Table 21: Divisional differences on the experience of individual stress, group stress and group cohesion

	MF vs MPN	Mean	Std. Deviation	T (df)	Sig	Adjusted for clustering F-value		
						F	p	
Individual Stress	MF	126	2.8	0.92	-0.651 (321)	0.515	0.68	0.412
	MP	197	2.9	0.96				
Group Stress	MF	128	3.2	0.84	0.869 (323)	0.386	0.07	0.797
	MP	197	3.1	0.84				
Group Cohesion	MF	128	3.3	0.59	-0.354 (323)	0.724	0.01	0.942
	MP	197	3.3	0.76				

5.4.4. WORKPLACE DRINKING CLIMATE

Drinking norms were assessed by the frequency of four co-worker behaviours. Responses ranged from 1 = never to 5 = almost always. Reliability, as measured by Cronbach's alpha was 0.743. A single factor solution for drinking climate was confirmed with Kaiser-Meyer-Olkin's measures of adequacy 0.73 which is above the recommended value of 0.6. Bartlett's Test for Sphericity was $\chi^2 = 319.385$, $p < 0.05$. For the workplace drinking climate scale, the mean value across all four items was 2.95 (SD = 0.916).

When considering single items of the scale drinking climate with responses ranging from 1 never to 5 almost always, 43.4% of employees reported sometimes socialising with colleagues after work, whilst a further 26% reporting often/almost always drinking with co-workers on the weekend. Employees also reported often engaging in conversations around drinking or drinking activities (sometimes, 38.3%; often, 24.3% and almost always, 10.6%).

Interestingly 26.5% of participants reported that alcohol was 'almost always' available at work parties, 24% indicated 'often', 16.7% indicated that 'sometimes' alcohol was available and 32.8% indicated 'never' or 'rarely'.

Findings also point to variability in perception of drinking climate between those that abstain from alcohol and those that drink. Those that consumed alcohol ($m = 3.06$, $SD = 0.873$; Median = 3.00) were more likely to have a positive attitude towards workplace drinking, compared to abstainers ($m = 2.78$, $SD = 0.969$, Median, 2.75). This difference was statistically significant ($z = -2.163$, $p = 0.031$), but when adjusting for clustering the findings suggest borderline significance ($F = 3.85$, $p = 0.051$).

No significant differences were found between MF ($m=2.87$; $SD = 0.875$) and MP ($m= 3.00$; $SD 0.943$) employees on respective drinking climate scores ($t = -1.251$; 319, $p = 0.212$). Adjustment for clustering did not alter the scores ($F = 1.10$, $p = 0.295$).

5.4.5. JOB SATISFACTION

Independent factor analysis confirmed a single factor solution for the scale job satisfaction using Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.862) and Bartlett's Test of Sphericity ($\chi^2 = 0.862$, $p = <0.000$). Reliability of the scale was good, as measured by a Cronbach's alpha of 0.855. The average of the items was used as a composite measure for job satisfaction ($m=3.27$; $SD = 0.807$). The average score suggests that employees were neither satisfied with their job. A score of 3.2 on the likert scale indicates neither satisfied nor dissatisfied. There were no statistically significant differences in job satisfaction between abstainers and drinkers or MF employees and MP employees (see table 22).

Table 22: Divisional and drinking status differences in job satisfaction

	Group	M	SD	Median	z	p	Adjusted for clustering F-value	
							F	p
Job Satisfaction	Abstainers	3.33	0.718	3.33	-0.150	0.881	0.01	0.983
	Drinkers	3.31	0.823	3.33				
Job Satisfaction	MF	3.37	0.732	3.50	-1.674	0.094	1.44	0.231
	MP	3.21	0.848	3.33				

5.4.6. PERCEIVED WORK-RELATED RISKS

For the scale 'Perceived Risk', reliability statistics confirmed a Cronbach alpha of 0.83 and a Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.848) and Bartlett's Test of Sphericity ($\chi^2 = 596.326$, $p = <0.000$) confirmed a single factor solution. The 6 items were averaged to represent an estimate of employees perceptions on perceived risk at work ($m = 3.33$; $SD = 0.914$). This suggests that employees are at some risk (a mean of 3 on the Likert scale represents 'some risk') of lost productivity and/or safety problems in their work setting.

There was a statistically significantly difference between the perception of risk by abstainers and the perceptions around risk by drinkers. Participants that drink were more likely to perceive their work as more risky than those who largely abstain from drinking (see table 23 below). No divisional differences were reported (table 23).

Table 23: Divisional and drinking status differences in perceptions of work-related risk

	Group	M	SD	Median	z	p	Adjusted for clustering F-value	
							F	p
Perceived work-related risks	Abstainers	2.99	0.803	3.00	-2.768	0.006	8.97	0.003
	Drinkers	3.41	0.927	3.33				
Perceived work-related risks	MF	3.29	0.880	3.33	-1.014	0.311	0.62	0.430
	MP	3.36	0.938	3.33				

5.4.7. RISK FACTORS FOR PROBLEMATIC ALCOHOL USE: INDIVIDUAL STRESS, GROUP STRESS, JOB SATISFACTION, RISKS AT WORK, A CLIMATE FAVOURABLE TO DRINKING AND LEVELS OF GROUP COHESION

To examine the psycho-social correlates of problematic alcohol use, a regression (poisson) analysis was conducted adding only variables that literature suggests predicts problematic drinking. As a result individual stress, group stress, a climate favourable to drinking, job satisfaction, risks at work and levels of group cohesion were added into the model. Age and divisional differences were added into the model. The results revealed that the overall model was statistically significant however only age (demographic variable), drinking climate, job satisfaction and risk at work were found to be individually significant correlates of days having more than five drinks in past 30 days (see table 24). No collinearity between independent variables was found.

Table 24: Relationship of psycho-social and climate variables to problematic alcohol use (n=325).

Independent Variables	Estimate	SE	t-Value	p-value
Division	0.099	0.253	0.39	0.698
Age	0.012	0.006	2.00	0.047
Individual Stress	0.050	0.050	1.00	0.320
Group Stress	-0.031	0.062	-0.49	0.622
Group Cohesion	-0.164	0.062	-2.65	0.009
Drinking Climate	0.187	0.045	4.19	<.0001
Job Satisfaction	0.216	0.049	4.44	<.0001
Risk at work	-0.157	0.042	-3.73	<.0001

Dependent variable: (>5 drinks)

5.5. PRIMARY SUBSTANCE OF ABUSE: DRUGS

Employees were asked to indicate whether they used any drugs in the past 12 months. The majority (86.5%) of employees indicated that they have never used drugs. Only nine employees indicated cannabis abuse and one indicated methamphetamine abuse. Almost 10 per cent of employees did, however, indicate the use of over-the-counter medications (n=31) which includes medications such as Dispirin, Panado, Adcodol and Stilpain for purposes other than intended. Of those using some form of substance (n=43), other than alcohol, the 46.2% indicated frequency of use as once per week or less. Whilst the majority (n=43) of those reporting substance abuse indicated that they never use right before or at work, 17.1% did indicate that they would use their primary drug right before work or at work on a weekly basis.

5.6. CO-WORKER SUBSTANCE ABUSE

Employees who participated in the survey were asked to answer specific questions which relate to the drinking and drug abuse behaviours of co-workers. Employee participants were asked to indicate whether they have ever suspected a fellow co-worker of being under the influence of alcohol or other drugs at work. Almost half of employees (47.6%; n=152) reported that have suspected a co-worker of alcohol or drug abuse.

5.6.1. CO-WORKER DRINKING AND DRUG USE

Figure 6 below displays employee perceptions around co-worker drinking and drug abuse. Employees were asked how often in the past 6 months a co-worker drank alcohol either while at work or just before work. Twenty-seven per cent (n=86) of employees indicated that in the past 6 months they believed there was a co-worker who drank at or before work. A further 42.6% of employees indicated seeing a co-worker drunk or under the influence at work in the past six months. Forty-three per cent of employees reported having smelled alcohol on the breath of a co-worker in the past 6 months.

In relation to using illegal drugs, 16.3% of employees indicated that there were co-workers using drugs either before or during work in the last 6 months. Six per cent indicated that they knew of a co-worker who gave drugs to other colleagues in the past 6 months.

Figure 8 also depicts responses by division. Compared to MP participants, MF participants were significantly more likely to have witnessed a co-worker use drugs at work or right before work (25% versus 16%) ($\chi^2 = 11.697$; (2), $p = 0.003$). However when adjusting for clustering through regression analysis, significance fell away ($F = 2.81$, $p = 0.095$). MF officials were more likely than MP employees to have witnessed a co-worker working under the influence (48% versus 38.8%) although this finding was not significant ($\chi^2=3.694$; (2) $p = 0.158$), nor significant when adjusting for clustering ($F = 1.30$, $p = 0.256$). MF employees were also significantly more likely to be sold drugs by their colleagues when compared to their MP counterparts (10.7% vs 3.7%) ($\chi^2 = 8.458$, $p = 0.015$). When adjusting for clustering the result was borderline ($F = 3.85$, $p = 0.051$).

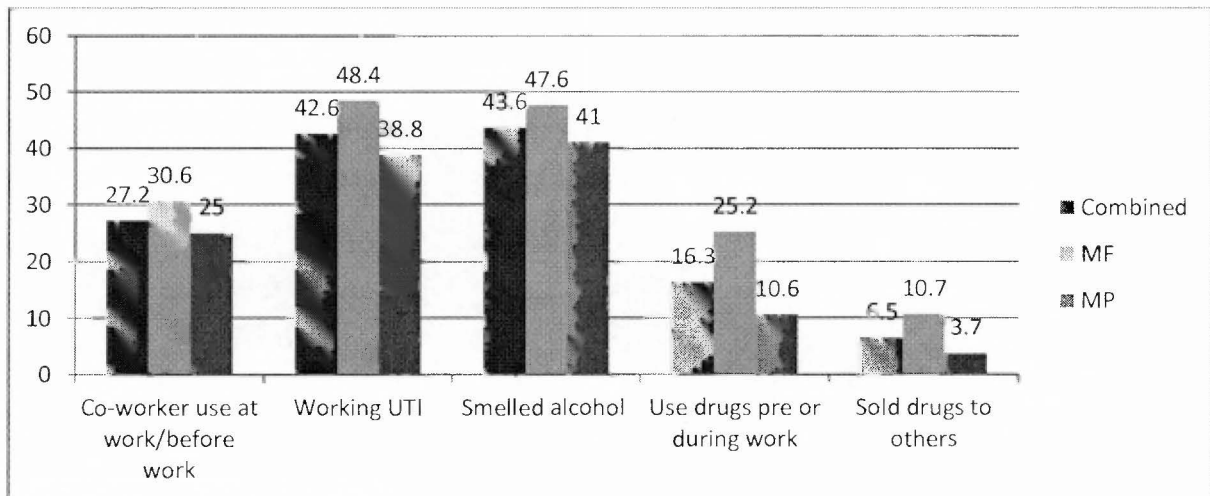
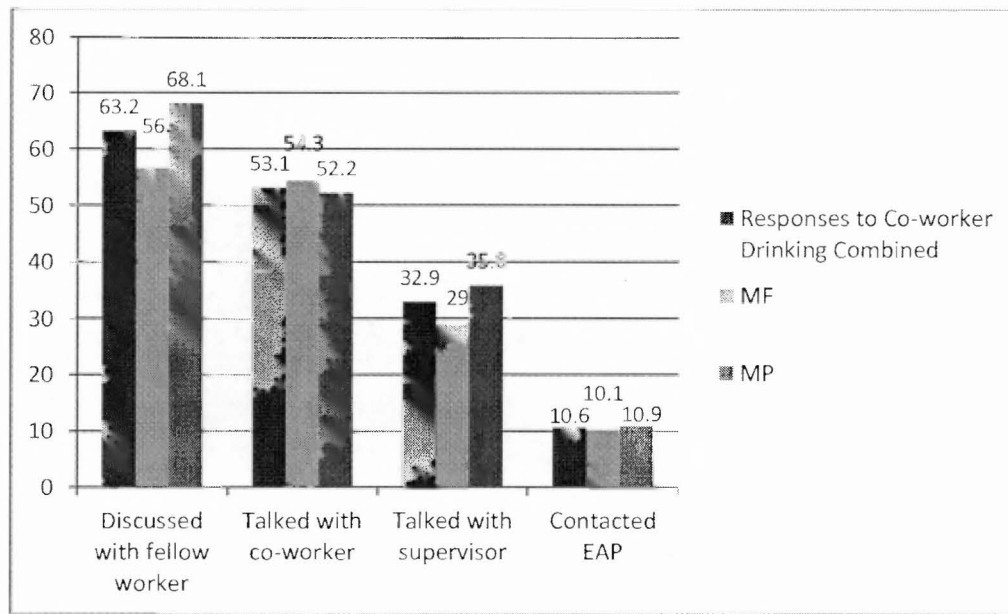


Figure 8: Employee perceptions around co-worker drinking and drug use (n=325)

5.6.2. EMPLOYEE RESPONSES TO CO-WORKER DRINKING

The variable, 'employee response to co-worker drinking', aimed to gauge employee responses to a co-worker who they thought was using alcohol or other drugs at work, or an employee who comes to work under the influence. Figure 9 summarises participant employee responses to a co-worker who they thought was drinking. The majority of employees (63.2%) reported they would discuss the troubled co-worker with a fellow worker, with 42.4% of employees indicating ignoring the situation as a response. A further 53.1% of employees indicated that they talked with the troubled co-worker. There were no significant differences between MP and MF on any of the employee response variables ($p>0.05$). Furthermore there were no significant divisional differences when adjusting for clustering ($p>0.05$).



* The responses were not mutually exclusive

Figure 9: Of those you thought had an AOD problem – what did you do about the situation (n = 325)*?

5.6.3. NORM OF TOLERANCE AND RESPONSIVENESS

Co-worker enabling included four items and asked how likely a co-worker would ignore and cover for a fellow employee with a drinking or drug problem. The scale score (1-5) had a mean of 2.59 (SD = 0.734; Median = 2.67). Factor analysis confirmed a single factor solution for this scale, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.513) and Bartlett's Test of Sphericity ($\chi^2 = 185.249$, $p = <0.000$). A reliability score of 0.58 was attained using Cronbach's alpha.

However single item analysis found that employees are less equally likely (53.3%) to ignore drinking problem by a co-worker but more likely to cover up for a co-worker (56.7%). There were no significant differences in how abstainers and drinkers tolerate and respond to colleagues with a substance abuse problem (see table 25 below). There were also no significant differences between MP and MF employees in respect of tolerance and responsiveness to an employee with a substance abuse problem (see table 26).

Table 25: Differences in the norm of tolerance and responsiveness between drinkers and abstainers

	Abstainers vs drinkers	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Norm of tolerance and responsiveness	Abstainers	34	2.59	0.821	2.67	-0.580	0.562	0.04	0.832
	Drinkers	113	2.62	0.720	2.67				

Table 26: Divisional differences on the norm of tolerance and responsiveness

	MF vs MP	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Norm of tolerance and responsiveness	MF	126	2.64	0.685	2.67	-0.572	0.567	0.93	0.335
	MP	191	2.56	0.765	2.67				

5.6.4. CONSEQUENCES OF CO-WORKER DRINKING OR DRUG ABUSE

The scale 'consequences of co-worker drinking or drug abuse' comprised a 5-item scale. A reliability score measured with cronbach alpha found a score of $\alpha = .924$. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.879, and Bartlett's test of sphericity was significant ($\chi^2 = 1385.858, p < 0.05$). The mean for this sample is $m = 2.05$; $SD = 0.973$. There were no differences in responses from those participants that consume alcohol and those that do not on this item (see table 27 below). There were also no differences amongst employees within the MF and MP divisions (see table 28).

Table 27: Differences in the perceptions on consequences of AOD use between drinkers and abstainers

	Abstainers vs Drinkers	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Consequences of co-worker substance abuse	Abstainer	52	1.8910	0.872	2.00	-1.087	0.277	1.51	0.221
	Drinkers	198	2.0746	0.980	2.00				

Table 28: Differences in the average perceptions on consequences of AOD use between MF and MP employees

	MF vs MP	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Consequences of co-worker substance abuse	Fire	126	2.0677	0.952	2.00	-0.170	0.865	0.30	0.874
	Police	191	2.0499	0.989	2.00				

5.6.5. STIGMA PERCEPTIONS

Stigma was assessed by five items asking participants if they thought co-workers would think negatively of an employee having a drinking problem or getting help. Reliability testing produced a cronbach alpha score of $\alpha = .76$ ($m = 3.03$; $SD = 1.005$; median = 3.00) for this scale. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy yielded a result of (0.764) and Bartlett's Test of Sphericity ($\chi^2 = 535.573$, $p = <0.000$). In summary, participants indicated that they neither agreed nor disagreed with the perception that substance abusers were stigmatised (scale mean of 3.2; $SD = 1.005$).

Figure 10 outlines differences in perception of stigma between employee participants from the MF division and those from the MP division. From the figure below there are no major differences between the two divisions in terms of perceptions of stigma. No statistical significant differences were reported (table 29).

In addition, there were no significant differences in the perceptions of drinkers and abstainers on perceptions of stigma ($p > 0.05$) (see table 30 below).

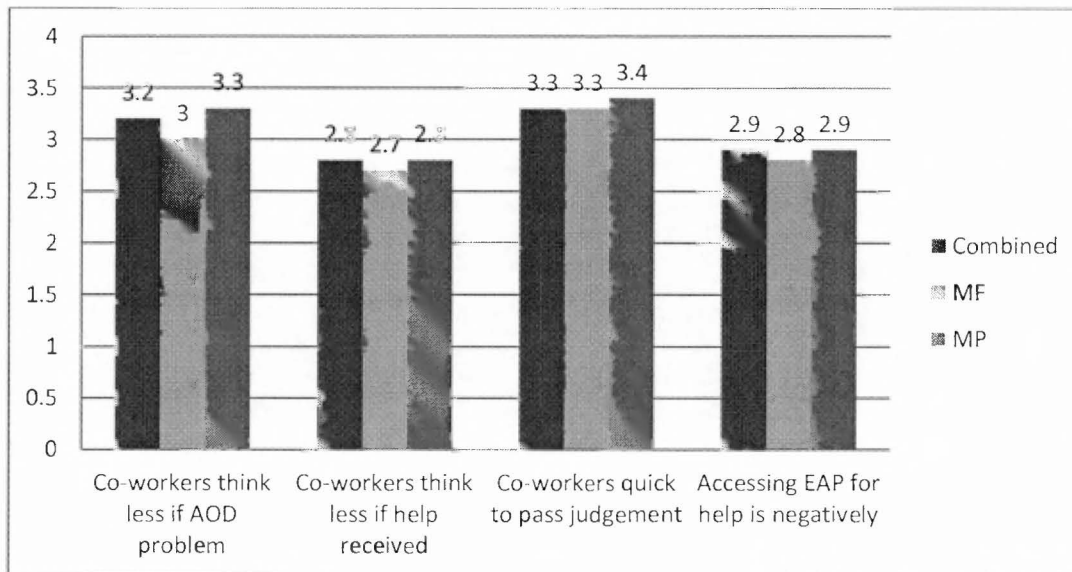


Figure 10: Mean Stigma Perceptions

Table 29: Divisional differences on stigma perceptions

	Division	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Stigma Perceptions	MF	124	2.96	0.955	3.00	-1.236	0.217	0.17	0.677
	MP	192	3.08	1.035	3.00				

Table 30: Differences between abstainers on stigma perceptions

	Abstainers vs Drinkers	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Stigma Perceptions	Abstainers	51	3.0098	0.99745	3.25	-0.196	0.845	1.25	0.264
	Drinkers	199	3.0783	1.00419	3.00				

5.6.6. FORMAL SANCTIONS

Formal sanctions believed to be related to being under the influence at work, or using substances at work were assessed using a 5 item scale. Reliability as measured by cronbach's alpha was $\alpha = 0.854$. Factor analysis further confirmed a single factor solution for this measure reporting a Kaiser-Meyer-Olkin measure of sampling adequacy of 0.807, and Bartlett's test of sphericity was significant at ($\chi^2 = 662.155, p < 0.05$). For this sample the mean was recorded as $m=3.41$ ($SD=0.8953$). The average score is equivalent to a written warning for substance abuse related offenses. However when considering sanctions for specific items on the scale, it becomes clear that for actions such as possession of alcohol or drugs ($m = 4.15; SD = 1.071; median = 4$) or being under the influence at work ($m = 3.45; SD = 1.129; median = 4.00$) the main sanction is suspension of the employee. There was a significant difference between MF and MP employees (see table 31). MP employees, on average, reported stronger sanctions for substance-related offenses than their MF counterparts. There were no significant differences found between drinkers and abstainers on formal sanction perceptions (see table 32 below).

Table 31: Divisional differences on formal sanctions

	Division	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Formal Sanctions	MF	124	3.2024	0.933	3.20	-3.254	0.001	11.82	<0.001
	MP	193	3.5570	0.843	3.60				

Table 32: Differences between abstainers on stigma perceptions

	Abstainers vs Drinkers	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Formal Sanctions	Abstainer	53	3.3377	0.790	3.40	-0.528	0.598	0.16	0.690
	Drinkers	197	3.3706	0.907	3.40				

5.7. ABSENTEEISM, PRESENTEEISM AND ALCOHOL USE

5.7.1. EMPLOYEE ABSENTEEISM

Absenteeism is scored in terms of hours lost per month. Absolute absenteeism is calculated by multiplying the number of hours participants reported they are expected to work in a 7 day period by four and subtracting the total from hours participants worked altogether in a month ($4 \times (\text{hours does your employer expect you to work}) - (\text{hours altogether did you work in the past 4 weeks (28 days)})$). High scores indicate high amounts of absenteeism and lower bound scores (-) indicate working more than expected (see figure 11). For our sample, the average employee was absent 27.29 (SD = 77.341) hours in the past 28 days which amounts to approximately 3 and a half days that employees are on average absent from work. The study found that MP employees were significantly more likely to be absent when compared to their MF counterparts. However when adjusting for clustering, significance fell away (see table 33). There were no significant differences between abstainers and drinkers and absenteeism (table 34).

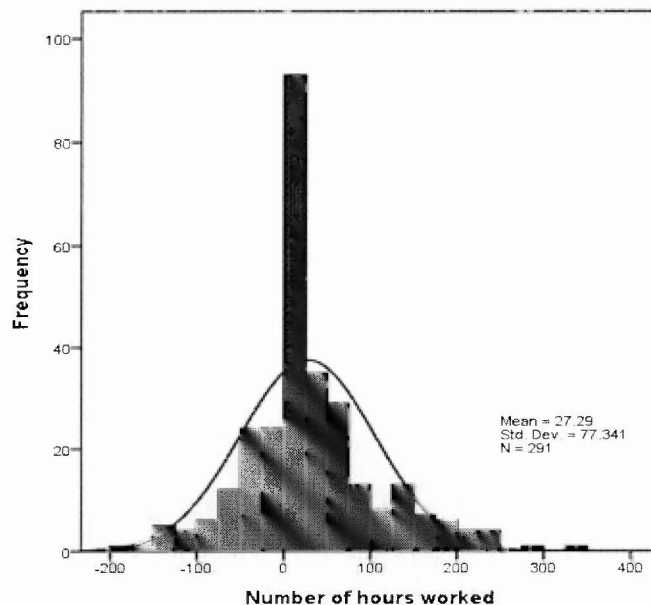


Figure 11: Distribution of number of hours worked.

Table 33: Divisional differences on absenteeism

	DIVISION	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Absenteesim	MF	89	12.17	93.48	0.00			2.95	0.087
	MP	139	36.16	66.94	24.00				

Table 34: Drinking status and absenteeism

	Group	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value		
								F	p	
Absenteesim	Abstainers	49	27.14	95.034	12.00		-0.200	0.842	<0.01	0.983
	Drinkers	179	26.70	74.392	9.00					

5.7.2. PRESENTEEISM

Presenteeism is conceptualised as a measurement of self-reported performance in relation to possible performance. The measurement for presenteeism makes use of simple scoring which is the scoring currently used in the absence of objective benchmark data. This form of scoring assumes that responses on the 0-10 response scales (in questions B9-B11, see Addendum E) indicate per cent of performance. With this assumption made, presenteeism has a lower bound of zero which indicates a total lack of performance and upper bound of 100 which indicates high levels of performance. On the absolute presenteeism scale, the two divisions received a mean score of (m= 77.27; SD=17.187, median = 80.00). This assumes a presenteeism score of 77%. There were no significant divisional differences reported or differences between drinkers and abstainers (see table 35 and 36).

Table 35: Divisional differences on presenteeism

	DIVISION	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Presenteeism	MF	116	79.3	15.4	80.0	-1.408	0.159	1.25	0.265
	MP	195	76.0	18.0	80.0				

Table 36: Drinking status and presenteeism

	Group	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Presenteeism	Abstainers	54	27.1	95.0	12.0	-0.455	0.649	0.04	0.832
	Drinkers	202	26.7	74.3	9.0				

Absenteeism, presenteeism and past 30 day use of alcohol (>5 drinks)

To examine whether problematic alcohol abuse is a determinant of absenteeism, a regression analysis was conducted entering days having more than 5 drinks in past 30 days, hangovers and CAGE into the model. The results revealed that days in past 30 days having > 5 drinks and hangovers were found to be a statistically significant (see table 37 below).

Table 37: Predictors of absenteeism.

Independent Variables	Estimate	SE	t-Value	p-value
Division	-22.62	16.92	-1.34	0.1830
Age	0.20	0.75	0.27	0.790
CAGE	1.36	5.37	0.25	0.800
Days in past 30 days having > 5 drinks	-1.71	0.78	-2.16	0.031
Going to work with a hangover	14.99	7.39	2.03	0.044

Dependent variable: Absenteeism

The same regression model using the same predictor variables used for absenteeism was applied on presenteeism. Although the estimates are small, the results suggest that days in past 30 days having > 5 drinks are a statistically significant determinant, although this is not in the predicted direction (see table 38).

Table 38: Predictors of presenteesim

Independent Variables	Estimate	SE	t-Value	p-value
Division	0.02	0.032	0.83	0.406
Age	0.0004	0.001	0.38	0.706
CAGE	0.0022	0.009	0.25	0.805
Days in past 30 days having > 5 drinks	-0.0036	0.001	-2.55	0.011
Going to work with a hangover	-0.0031	0.012	-0.26	0.796

5.8. WORKPLACE SUBSTANCE ABUSE POLICY

5.8.1. KNOWLEDGE OF A WORK PLACE SUBSTANCE ABUSE POLICY

The majority of employees know of the existence of a substance abuse policy (77.3%) within the broader organisation, with a small proportion still indicating some uncertainty about its existence (22.7%). When asked to comment on their knowledge on the content of the policy, more than half of employees indicated having 'a little knowledge' (58.8%) on the content of the policy, with close to 18% indicating no knowledge. A small proportion of employees (12.7%) indicated substantial knowledge on the organisations substance abuse policy.

5.8.2. EMPLOYEE FREEDOM TO TELL SUPERVISOR OF A SUBSTANCE ABUSE PROBLEM WITHOUT FEARING REPRISAL

Employees were asked about perceived freedom to tell a supervisor if they had a substance abuse problem. There was an even response, with 48.3% responding 'no' they would not talk to a supervisor about a substance-related problem and 51.7% responding 'yes', they would be comfortable.

5.8.3. GETTING HELP

Almost sixty per cent of employees reported that they know where to get help for an alcohol or drug-related problem.

5.8.4. ATTITUDES TOWARD POLICY IN RELATION TO FAIRNESS AND EFFECTIVENESS

Attitudes toward the organisational substance abuse policy were measured along a 5-point scale. Factor analysis confirmed a single factor solution (Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.705) and Bartlett's Test of Sphericity ($\chi^2 = 358.707$, $p = < 0.000$) at a significance level of $p = 0.000$. Reliability score using Cronbach's alpha score was $\alpha = 0.761$. The 5 items were averaged for each employee to represent an estimate of their attitudes toward policy ($m = 3.56$; $SD = 0.927$; median = 3.50). Participants in the study, on average agreed that the substance abuse policy within their workplace was fair and effective.

There were also no statistically significant differences in perceptions of policy between abstainers and drinkers (see table 39). Statistically significant differences were however found between MP and MFs, with employees in the MF division having a more positive attitude towards policies when compared to MP employees (see table 40 below).

Table 39: Differences in attitude towards policy for drinkers and abstainers

	Abstainers vs Drinkers	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Policy Attitudes	Abstainers	49	3.48	0.790	3.50	-0.439	0.661	0.24	0.624
	Drinkers	185	3.57	0.963	3.67				

Table 40: Divisional differences in attitude towards policy

	Division	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Policy Attitudes	MF	117	3.72	0.809	3.67	-2.448	0.014	4.30	0.039
	MP	172	3.45	0.988	3.50				

5.9. EMPLOYEE ASSISTANCE PROGRAMME UTILISATION

5.9.1. KNOWLEDGE OF EXISTENCE OF AN EMPLOYEE ASSISTANCE PROGRAMMES

Although the majority of employees surveyed knew of the existence of the EAP service (89.9%), 36.8% indicated that they would not utilise EAP services. However when questioned on whether they would recommend the EAP to a co-worker who needs help 72.9% indicated that they would.

Less than a third of employees reported ever using EAP for personal or work problems, with 27.4% of these employees indicating that they were dissatisfied with the treatment received from the EAP. A further 23.3% indicated that they were neither satisfied nor dissatisfied with the treatment received (23.3%) and less than a quarter (23.7%) was satisfied with the help received. Twenty five per cent of employees preferred to not answer the question. There were no significant differences in willingness to use EAP for abstainers or users of alcohol ($F = 1.72, p = 0.192$). There were no statistically significant differences between MF and MP employees ($\chi^2 = 2.460, p = 0.117$), and on adjusting for clustering no significance reported ($F = 2.11, p = 0.148$).

Employees also reported that they have never encouraged a co-worker to seek assistance from EAP for either a non-work-related problem (79.1%) or a work-related problem (84.3%). Employees were asked to indicate whether they themselves have ever been encouraged by someone else to call the EAP for a work-related problem. Only 10% indicated that they had been encouraged to call EAP whilst 15% reported that a supervisor had encouraged them to call the EAP.

When asked what the likelihood of a manager finding out about EAP use was, (43.5%) reported that it was 'very likely'. When asked what the likelihood of discipline for calling or using EAP was, answers were distributed between likely (38%) and unlikely (37%), with 24.8% of employees being undecided. Employees however indicated a confidence that the

EAP would be able to help them solve their substance abuse problems (40.1%), with a further (40.5%) recorded as undecided.

5.10. SUBSTANCE-RELATED CONSEQUENCES

Of those employees who use alcohol almost a third indicated that they experienced some form of consequence related to the abuse of substances. The table below displays the number of employees (n = 193) who have experienced consequences because of substance abuse. Twenty-four employees have been arrested for substance abuse, whilst 59 employees have experienced family-related problems. Substance abuse had resulted in some form of injury for 24 employees (see table 41).

Table 41: Consequences related to substance abuse.

Consequence Variable	Combined		MF		MP	
	n	% of the total	n	%	n	%
Traffic Fine	14	4.7	8	2.7	6	2.0
Arrested	28	9.4	13	4.4	15	5.1
Financial problems	59	19.9	24	8.1	35	11.8
Trouble at work	31	10.5	11	3.7	20	6.8
Work quality	37	1.6	17	5.8	20	6.8
Family problems	70	23.6	24	8.1	46	15.5
Passed out	43	14.5	24	8.1	19	6.4
Injury	24	8.1	9	3.0	15	5.1

Although MF employees were more likely to have had traffic fines (n=8) and suffered blackouts (m=24) than MP officials, MP officials were more likely to have had family (n=46 vs n=24) and financial problems (n=35 vs n=24) related to substance abuse. There were however no statistical differences between MP and MF employees on any of the consequence variables ($p > 0.05$). A composite score for the consequence variable was computed and adjusted to take clustering into account. The differences between MF and MP employees were not significant ($F(0.05, p = 0.832)$). On the contrary, drinkers on average

experienced more substance-related consequences when compared to abstainers (see table 42 below).

Table 42: Differences in substance-related consequences between abstainers and drinkers

	Abstainers vs Drinkers	N	Mean	Std. Deviation	Median	Adjusted for clustering F-value	
						F	p
Consequences	Abstainers	45	0.40	1.21	0.00	19.69	<0.0001
	Drinkers	193	1.31	1.92	0.00		

5.11. SUBSTANCE-RELATED KNOWLEDGE

Participants were asked to respond to a set of questions which aims to test employee knowledge on substance abuse. Participants were asked to respond 'No' or 'Yes' or 'I don't know' to a set of 12 questions described in section 2.3.4 of chapter 2. Participants who answered 'I don't know' were coded as missing numbers. Of those that answered yes/no (n=96), the mean average response was (m= 9.1), suggesting a score of 9 out 12 with 12 indicating some knowledge on substance abuse (Table 43). Twenty-two per cent of employees scored below 10 in respect of knowledge related to substance abuse. There were no differences between MF and MP employees on substance abuse knowledge (F = 0.22, p = 0.641). On the contrary the more employees identified as drinkers the less their knowledge on substance abuse was likely to be, this finding was statistically significant (F = 8.61, p = 0.003).

Table 43: Substance Abuse Knowledge

Knowledge Scale (1-12)	n	%
5	1	1.0
7	8	8.3
8	19	19.8
9	22	22.9
10	37	38.5
11	9	9.4
12	0	0
Total	96	100.0
Missing System	229	
Total	325	

* missing cases = 229: 41 system missing cases and 188 'I don't know'

5.12. SUBSTANCE-RELATED HIV RISKS

Figure 12 below reflects the outcomes to seven substance-related HIV risk questions taken out of a 25 question questionnaire developed by Rawson et al (2002). The seven questions explore sexual risk behaviour when under the influence of a substance. Of those employees who engage in alcohol or drug abuse, 10.8% indicated that their sexual drive increased with the use of their main substance of abuse. A further ten percent were likely to have sex with someone other than their main partner, and 8.6% indicated having sex with multiple partners when under the influence of substances.

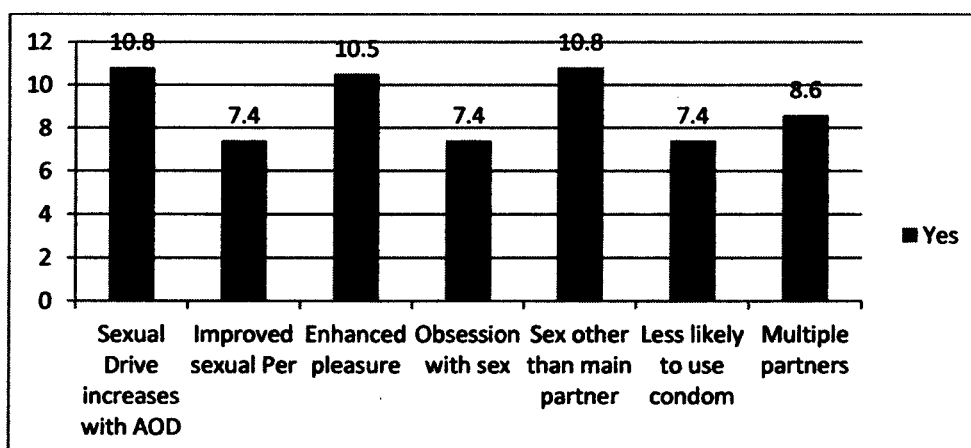


Figure 12: Sexual risk behaviours when under the influences of substances (n=325).

Although the majority of participants indicated no sexual risk behaviour when under the influence of addictive substances, a third of employees engaged in risky sexual practices. At least a quarter of employees who completed the survey indicated that they engaged in more than one or multiple sexual risk behaviours (Table 44).

Table 44: Divisional differences in degree of risk (n=325)

Degrees of Risk	Combined		MF		MP	
	n	%	n	%	n	%
0	171	69.5	62	68.1	109	70.3
1	29	11.8	15	16.5	14	9.0
2	14	5.7	4	4.4	10	6.5
3	14	5.7	5	5.5	9	5.8
4	9	3.7	4	4.4	5	3.2
5	5	2.0	1	1.1	4	2.6
6	2	.8	-	-	2	1.3
7	2	.8	-	-	2	1.3
TOTAL	246*	100	91**	100	155***	100

*missing cases (79)

**missing cases (37)

*** missing cases (42)

A mann-whitney test found no significant differences in degree of risk between MF and MP employees when under the influence of substances (see table 45). No significance was reported when adjusting for clustering (see table 45). On the contrary, there was a significant difference in the degree of risk for drinkers and abstainers. Drinkers were significantly more likely to encounter risks related to HIV when compared to their non-using counterparts (see table 46).

Table 45: Divisional differences and degree of substance – related HIV risk

	DIVISION	N	Mean	SD	Median	z	p	Adjusted for clustering F-value	
								F	p
Degree of risks	MF	91	0.64	1.186	0.00	-0.016	0.987	1.03	0.311
	MP	155	0.81	1.572	0.00				

Table 46: Abstainers and drinkers and degree of substance – related HIV risk

	Abstainers vs Drinkers	N	Mean	Std. Deviation	Median	z	p	Adjusted for clustering F-value	
								F	p
Degree of risks	Abstainers	35	0.08	0.37	0.00	-3.947	0.000	17.62	<0.0001
	Drinkers	167	1.05	1.64	0.00				

5.13. INTERPRETATION OF BASELINE RESULTS

The purpose of phase one of this research study was to begin to describe the nature and extent of substance abuse and substance-related HIV risk behaviours among employees working in safety-sensitive jobs within two divisions (MF and MP) of a local municipality in the Western Cape. Discussions of the results emanating from the baseline study will be organised around the key objectives the study sought to answer and will be supported with relevant literature.

Alcohol is the more commonly substance abused by persons in this sample. Of the sample (n=325) surveyed, more than three quarters indicated any use of alcohol (78.9%), with only a small proportion (n = 43) of employees reporting drug abuse. This is hardly surprising considering that a recent review of harmful drinking patterns and level of consumption in 20 African countries, ranked South Africa fourth highest in terms of the proportion of heavy

drinkers as a percentage of current drinkers (Clausen et al., 2009). Although studies document high prevalence rates for South Africa as a whole, the Western Cape Province is particularly burdened by substance abuse problems (Burnhams, Dada, & Myers, 2012). Additionally, findings from the first South African Stress and Health Study, a nationally representative study, found that the Western Cape had a significantly higher lifetime prevalence rate for substance abuse (18.5%) than the national average (13.3%) (Herman et al., 2009). Similarly, high lifetime prevalence of alcohol use was also reported in the South African Demographic and Health Survey of 2003 (Department of Health and the Medical Research Council of South Africa, 2003). This finding is further supported by findings from a review of research in the Western Cape that concluded that alcohol is the primary substance of abuse in the Western Cape (Harker et al., 2008). Table 47 at the end of this chapter provides an overview of relevant studies focusing on alcohol and drug abuse in South Africa, but more specifically in the Western Cape.

Additional findings emerging from this study related to the extent of binge drinking among employee participants. Binge drinking is often defined as having more than 5 drinks on one day in the last 30 days (Deitz et al., 2005). Findings suggest that more than half of the participants who consumed alcohol engaged in binge drinking (70%). This finding speaks to the assertion made by Parry et al (2005) that many drinkers in South Africa drink at problematic levels particularly binge drinking over weekends (Parry, Pluddemann, Steyn, Bradshaw, & Laubscher, 2005). Studies conducted by colleagues in Russia suggest that binge drinking not only results in an increased risk of death from accidents and injury, violence, and other causes directly related to alcohol, but also from non-communicable diseases such as cardiovascular disease (Malyutina et al., 2002). Alcohol abuse has been linked causally to cancer and cardiovascular disease (Parry et al., 2011).

In trying to further unpack the extent of problematic alcohol abuse, the study used the CAGE questionnaire test to determine severity of use. Our findings suggested that of those employees who indicated use of alcohol, close to a quarter had a positive CAGE score greater than the cut-off ≥ 2 , suggesting hazardous drinking patterns. Interestingly this does not fit with employee versions of whether they had a problem with alcohol, since 6.5% reported that they thought they had a problem and 6.5% suggesting that they may have a

problem. Nevertheless, the CAGE scores in this study is slightly less than the provincial average reported in the South Africa Demographic and Health Survey (SADHS), were 31% of men and 9.6% of females scored above the cut-off level on the CAGE Questionnaire (Department of Health and the Medical Research Council of South Africa, 2003). This data is significant considering that problematic use of alcohol has significant impacts on work performance, which would include job-related injuries, job withdrawal and even certain antagonistic work behaviours (Ames & Delaney, 1992; Roman & Blum, 2002). Our findings support this assertion in that almost a third of those that abused alcohol had experienced some form of negative consequence, such as having been arrested, poor workmanship and/or injury.

In attempting to understand problematic use of alcohol within this select population, it is perhaps important to factor in the occupations of the sample studied and whether it places employees more at risk for developing substance-related problems. It has been found that certain occupations such as safety-related occupations have reportedly higher substance abuse during or before work when compared to other non-safety related occupations. This suggests that employees employed in physically hazardous positions are more likely to have problems associated with substances when compared to persons who hold jobs that are less physically risky (Lehman & Bennett, 2002a). The evidence for this is substantial (European Alcohol and Health Forum, 2011; McCann et al., 2011). The divisions in this study are characterised as safety-sensitive or physically risky occupations, with literature reporting high levels substance abuse in these occupations (Bacharach, Bamberger, & Doveh, 2008; Madu & Poodhun, 2006; Violanti, Marshall, & Howe, 1983).

Results from this study further indicated that a small percentage (less than 10 percent) of employees admitted to using alcohol during their lunch break at work. In a large scale survey of persons employed with the railway services in the USA, a significant proportion (ranging from 6%-24%) of respondents reported drinking at least once whilst at work (Ames, Grube, & Moore, 1997). In a separate study of military personnel close to 10.1% reported drinking just before or during work (Bray, Marsden, Rachal, & Peterson, 1990). This suggests that use of alcohol during work is not unique to this study but appears to be a global problem in stressful workplaces. This is extremely worrying as it significantly increases the

risk of work-related injuries and poor judgement especially in the context of this sample (Lehman & Bennett, 2002b). Drinking at work also highlights a serious disregard for policies regulating the use of alcohol and drugs within the workplace, since employees within an organisation should be aware of rules stipulated in the policy guidelines and the sanctions involved.

This discussion is also relevant to the finding that a third of employees indicated going to work with a hangover. Employees engaging in drinking when away from their work are very likely to experience a variety of adverse consequences and problems such as hangovers which affects performance and employee cognitive and motor functions which are risks for bad judgement and other interpersonal conflicts and injuries (Ames et al., 1997; McCann et al., 2011; Roman & Blum, 2002). For example, a study of hangover effects on pilots found that pilots in a flight simulator who had a blood alcohol count of 0.10 per 100 ml blood the night before, had significantly poorer responses on handling the aircraft (Ames et al., 1997). Working in a hangover state further slows reaction time, impairs the lateral field of vision severely, and reduces cognitive processing of information and eye-hand coordination (McCann et al., 2011). Albertyn and McCann argue that in occupations such as airline pilots, crop sprayers, fire-fighter bombers or policemen; a delay in flicking of a switch, engaging landing gear or pulling a trigger could accidentally result in a major disaster (Albertyn & McCann, 1992). Additionally work-related drinking and hangovers also impact on worker productivity and quality of working life. For instance, Ames and colleagues suggest that such workers are more likely to get into disputes at work, with family or fall asleep on the job (Ames et al., 1997).

Drinking also increased the likelihood of calling in sick for work the next day. This finding was particularly significant for employees in the MP division. A time-series study in Norway found that a one litre increase in the total alcohol consumption was associated with a 13% increase in sickness absence (Norstrom & Moan, 2009). Similar studies have also found a reasonable relationship between alcohol use and absenteeism (McCann et al., 2011; McFarlin & Fals-Stewart, 2002; Vahtera, Poikolainen, Kivimaki, Ala-Mursula, & Pentti, 2002). In this study, alcohol abuse more particularly binge drinking and a hangover were found to predict absenteeism, although this was not in the predicted direction. This finding does not

support research which has repeatedly shown that absenteeism is related to problematic alcohol use within the workplace (Foster & Vaughan, 2005), but can imply that at the time of this study, there may have been other factors that represent stronger predictors of absenteeism. Low response rates may also be a contributor. Although there were no statistical significance in relation to divisional difference and absenteeism, MF employees were less likely to be absent when compared to MP employees. The absence of a significant association in this study between having more than five drinks and MF employees could be associated for instance with the shift cycles worked by MF employees. These shift cycles may be a contributor to lowered absenteeism statistics for MF employees. For instance employees within the MF division work a 24 hour shift in the following order: one day on; one day off; one day on; two days off; 1 day on; 4 days off; 1 day on; two days off, and back to the start. Employees may have four days off before they begin a new cycle which might reduce stress, facilitate psycho-biosocial adjustment, which could explain the lack of an association. In addition, MF stations are geographically spread across the city, with some areas classified as 'quieter areas' in respect of frequencies of emergencies, and therefore there may also be more time available to recover from a hangover.

In respect of presenteeism, and when combining the results for the two divisions, this study found a significant association in problematic alcohol use and presenteeism levels. Regression analysis found a relationship between presenteesim and outcome variables such days having more than 5 drinks on 5 days in the last 30 days but not in the anticipated direction. This finding may suggest that the way that the presenteeism variables are structured (it asks participants to rate how productive they are), may have encouraged a biased response, since persons with a substance abuse problem may over report their productivity levels. The results could also be influenced by low response to these variables since various studies have highlighted the link between problematic alcohol use and increased presenteeism (European Alcohol and Health Forum, 2011; Mangione et al., 1999; McCann et al., 2011). Presenteesim has been defined as the act of attending work when one is not physically or mentally well and therefore unable to put in a 100% effort. This would include getting to work late, leaving early and doing less work than is expected (Kessler et al., 2003; Pilette, 2005; Thavorncharoensap et al., 2010). A large scale study conducted in Australia confirmed that substance-related disorders increased the risk of

presenteeism (European Alcohol and Health Forum, 2011). Despite its prevalence, however, presenteeism is difficult to define and very difficult to identify. This lack of clarity regarding what does (and does not) constitute presenteeism means that the problem is often overlooked or ignored (McCann et al., 2011). Despite this, consideration should be given to on-the-job absenteeism, particularly amongst employees who are on a daily basis exposed to safety critical tasks or work that requires precision, as this can have serious detrimental effects since decision making abilities and reflexes are adversely affected (McCann et al., 2011).

The study further found that males were significantly more likely than females to drink problematically (a CAGE score ≥ 2) or have days in the past 30 days where they had more than five drinks. Various studies have alluded to working men being more at risk for alcohol use disorders when compared to their female counterparts (Deitz et al., 2005; McCann et al., 2011). Altogether this is not surprising considering that multiple data sources in South Africa, such as, the South African Demographic and Health Survey (Parry, Pluddemann, Steyn, Bradshaw, & Laubscher, 2005); the South African Community Epidemiology on Drug Use (SACENDU) (Pluddemann, Myers, & Parry, 2008) and the Substance Abuse Surveillance System (Burnhams et al., 2012) for district offices (SASS) all find that men are more likely to use substances or present for treatment with substance-related problems (see table 47). This suggests that men are increasingly at risk for developing substance-related disorders and should be targeted in prevention programmes and early intervention programmes.

The study also finds a significant association between age and days in past 30 day having more than five drinks. Older employees have more days where they have greater than five drinks. Length of employment was also significantly associated with days in past 30 day having more than five drinks. Employees with longer employment were more likely to have greater than 5 drinks in the past 30 days. On the contrary there was no significant association between a positive score on the CAGE and age or length of employment. Interestingly, these findings suggest that age and length of employment do not predict a positive CAGE score. Only having greater than five drinks in the past 30 days would predict a positive CAGE score. In a study of police officers researchers found that cirrhosis of the liver was elevated across all years of services (Violanti, 2012), and therefore not dependent on patient age. In addition, literature suggest that the development of a substance abuse

problem is not solely dependent on age or length of employment but a combination of environmental, biological and other psycho-social aspects (McCann et al., 2011).

Studies have shown small but significant associations between occupational stress and alcohol consumption (Roman & Blum, 2002). This study suggests that employees who drink alcohol are more likely to report higher levels of individual stress when compared to their non-using counterparts. Literature on this topic however cautions that the association between drinking and stress is a complicated one since both drinking behaviour and an individual's response to stress are determined by multiple genetic and environmental factors (Sadava & Pak, 1993; Volpicelli, 1987), and not confined to the absence or presence of stress as a sole predictor. Alexander et al suggests that a thorough understanding of stress within occupational settings requires knowledge of the i) working environment, ii) the individual's view of his working environment and iii) the individual's reaction to it (Alexander, Walker, Innes, & Irving, 1993). This suggests that circumstances within the working environment may be perceived as stressors, but different workers may experience different situations as stressful and employ varying coping mechanisms (Alexander et al., 1993; Harker, 2006). Nonetheless, literature has also consistently shown that alcohol is often used to cope with the stressors of life (Bacharach, Bamberger, Sonnenstuhl, & Vashdi, 2008; Geldenhuys, 2003; Harker, 2006) and that people drink as a means of coping with stress (Bacharach, Bamberger, & Doveh, 2008; Geldenhuys, 2003; Pohorecky, 1991). This was evident in a study of police officials in Limpopo (Madu & Poodhun, 2006). Pohorecky further contends that alcohol consumption is greater when people lack the necessary resources to cope, such as, social (group) support or when alcohol is accessible, and when the individual believes that alcohol will help to reduce the stress. The findings point to a need for comprehensive health promotion initiatives that include evidence-based components for stress management and coping with difficult life situations.

The study further found that low group cohesion, a favourable drinking climate, and group stress, high job risk, coupled with low job satisfaction significantly predicted days having greater than five drinks. Literature on substance abuse in the workplace has consistently linked problematic alcohol use to low group cohesion, a favourable drinking climate, group stress and high job risks (Bennett & Lehman, 1998; Bennett et al., 2004; Lehman & Bennett,

2002a). For instance, Trice and colleague found that good social (team) support within the work context assists in curbing problems related to risky drinking climates (Ames et al., 2000; Trice & Sonnenstuhl, 1990). Strong group cohesion on the other hand has been found to act as a buffer against substance abuse. Lehman and colleagues contend that cohesive and task-oriented groups with minimal group stress are less likely to have members with substance abuse problems (Bennett & Lehman, 1998). This suggests that the components that make up group cohesion, for instance, interpersonal attraction, commitment to the task, and group pride (i.e. a feeling of pride in being part of a group) are important in buffering substance abuse (Mullen & Cooper, 1994; Rosh, Offermann, & Van Diest, 2012).

Over the decades literature has largely focussed on the impact of substance abuse on the employee, employer and the organisation. The actual impact of substance abuse can also be felt by co-workers (Ames & Grube, 1999; Ames et al., 2000; Bennett & Lehman, 1998). One of the aims of this study was to explore employee perceptions on co-worker substance abuse. In keeping with findings from other studies, this study found that employees were more likely to comment on substance abuse amongst their co-workers rather than their own patterns of substance abuse. The results from this section of the study may therefore be a more accurate proxy for the extent of employee substance abuse in this sample. Almost half of participants have suspected a co-worker of having a drink before work or during work, come to work under the influence, or smelled liquor on a co-worker's breath. This finding is alarming and gives rise to some questions related to why employees tolerate substance abuse by co-workers, when substance abuse clearly places fellow workers at risk for injury. Early studies by Bennett and Lehman (Bennett & Lehman, 1999a, 1999b) hypothesised that the vulnerability to negative consequences of substance abuse will vary based on specific social and occupational aspects, for instance the degree of group cohesiveness and group drinking climate as well as attitudes to policy (Reynolds & Lehman, 2003). Employees within cohesive work groups are less likely to report problem drinking and have less tolerance for such behaviours than groups where such cohesions are low (Ames et al., 2000; Bennett & Lehman, 2001). In the same vein the presence of a supportive drinking climate (characterised by drinking together and tolerating drinking problems) could support and sustain such patterns. Similarly, a positive attitude to company policy on substance abuse can act as a protective factor against co-worker use. In this study the average

drinking climate score of 2.95 was marginal, neither indicating a problematic or non-problematic workplace, although drinking climate scores amongst drinkers were significantly higher than those among non-drinkers. Drinking climate also emerged as a predictor for problematic alcohol use. Invariably it is important to consider employee substance abuse in relation to co-worker responses to such use. It is clear from the sample studied and participant answers to single item questions that employees are more likely to engage in behaviours that tolerate rather than respond appropriately to co-worker substance abuse (Reynolds & Lehman, 2003). For instance, 53.3% indicated that they will ignore a drinking problem, and 56.7% indicated that they would cover up for an employee with a drinking problem. Bennett and colleagues refer to this as the norm of tolerance to co-worker substance abuse and recommended the implementation of prevention programmes that addresses such problematic behaviours (Bennett & Lehman, 2003; Bennett, Reynolds, & Lehman, 2003).

Factors within the working environment, for instance exposure to the improper handling of machinery or unsafe working conditions are also contributing factors to substance abuse. In our study sample, a significant proportion of those employees who self-identified as drinkers indicated that their jobs placed them at risk of certain harms. In addition high job risk emerged as a predictor of days having greater than 5 drinks. This is important since literature suggests that there may be factors endemic to a particular workplace or occupation that predisposes employees to substance abuse. For example, in some low and middle income countries, workers have turned to the use of amphetamine type stimulants to cope with extremely long working hours in factories and call centres (CALSAM, UNODC, & ROSA, 2010). In Northern Thailand and Uganda, the social context of factory work has led to workers engaging in risky behaviours like substance abuse and unprotected sex (Buregyeya, Bazeyo, Moen, Michelo, & Fylkesnes, 2008; Theobald, 2002). This suggests that there are various risk and protective factors which influence employee vulnerability to substance abuse. In the case of this study, employees face many multiple risks and are exposed to trauma on regular basis. Exposure to trauma has been cited as a contributing factor to high levels of substance abuse (Javidi & Yadollahie, 2012). Although a focus on employee experience of trauma falls outside the ambit of this study since exposure to trauma was not measured, the researcher did notice (through focus group discussions and the Team

Awareness group discussions – discussed in chapters 6 and 7) that continuous exposure to trauma was often cited as a contributing factor to drinking heavily. It may be worthwhile to explore evidence-based prevention interventions that are aimed at enhancing coping and resiliency of employees who are regularly exposed to traumatic incidents, and therefore prevent the progression to a substance abuse problem. Additional workplace environment factors that could contribute to substance abuse in the workplace relate to low job satisfaction, lower involvement and commitment to the job, no faith in management, burnout and lack of autonomy in the job (McCann et al., 2011; Roman & Blum, 2002), but these were not explored in this study.

In respect of patterns of help-seeking behaviour and EAP utilisation, the study found that employees were mostly aware of the availability of counselling via EAP services. Despite awareness of the existence of the EAP and its services, there was reluctance to access these EAP services. This is evident in the fact that more than a third of employees indicated that they would never use the EAP. Less than a third of employees reported ever using EAP for personal or work related problems. Interestingly, almost 75% indicated that they would refer a colleague to EAP for a work or personal problem, since it may be easier to report substance abuse in a colleague and deny own problematic use. Reluctance to use the service could also possibly be related to previous experiences of EAP and perceptions around perceived quality of the service provided. Reluctance and unwillingness to use EAP is not unique to this dataset, as comparable studies in other settings have reported similar findings (Azzone et al., 2009; Bennett & Lehman, 2003; Reynolds & Lehman, 2003). For instance, one study reported a high percentage of substance abuse amongst employees, but despite this, self-referrals to EAP services were low (Reynolds & Lehman, 2003). There is a body of research that explores resistance to accessing EAP services, particularly amongst those employees who are likely to benefit the most. Factors impeding EAP utilisation range from stigma associated with substance abuse problems, neutrality of EAP and confidentiality concerns, mistrust of management and concerns related to the quality of the service provided (Azzone et al., 2009; Levy Merrick et al., 2007).

Some of the organisational factors impeding on EAP utilisation described above have some bearing on this study. Interestingly, stigma associated with admitting a substance abuse

problem emerged as an important finding in this study and could act as a barrier to EAP utilisation. Stigma is defined as the disapproval of a person on the grounds of characteristics that distinguish them from other members of society. Stigmatized individuals are often subjected to offensive stereotypes and are often labelled by society (Dunn, 2005; McCann et al., 2011). Organisation and EAP practitioners should bear in mind that substance abuse is generally still a stigmatised condition and remains an obstacle to addressing substance abuse issues in the workplace (Cook & Schlenger, 2002) as it contributes to an unwillingness to use EAP or seek help for substance-related problems (McCann et al., 2011; Reynolds & Lehman, 2003).

An additional barrier to seeking assistance from EAPs relates to the findings on confidentiality and EAP use. Participants raised concerns around the issue of confidentiality of employee personal information in relation to substance abuse. It emerged from the findings, that information shared with EAP and managers is perceived to not be kept confidential. Unfortunately, data collection did not include a variable that asked employees whether they had been formally or informally referred to EAP. This may have a significant bearing on employee perceptions since the type of referral would reflect whether a manager would know of a substance abuse problem or not. For instance, if referrals are formally made to the EAP, then it would stand to reason that managers would be aware of the problem, as they would have initiated the referral to EAP. On the other hand, informal referrals that are voluntary in nature would suggest that employees self-refer and therefore would be entitled to confidentiality. Further consideration should however be given to these concerns since employees with low trust in management are significantly more likely to believe that their personal information will not be kept confidential (Azzone et al., 2009; Merrick, Volpe-Vartanian, Horgan, & McCann, 2007; Reynolds & Lehman, 2003) than employees who have trust in management. Lack of trust in management also works against encouraging help-seeking.

In relation to awareness and attitudes towards the workplace substance abuse policy, employees indicated limited awareness of the existence of a substance abuse policy. Their level of knowledge of the policy content was also limited. Knowledge of policy content is highly important since a positive orientation to policy is key to creating awareness around

the availability of services such as that of EAP and in encouraging employees to access such EAP services (Azzone et al., 2009; Bennett & Lehman, 1997; Levy Merrick et al., 2007). As employees become aware of the content of workplace substance policies, they recognise that the purpose of the policy is a safer working environment.

Consideration should be given to these barriers that hinder help-seeking behaviour through adequate and extensive awareness and prevention programmes. Employers should be cognisant of the fact that the ultimate benefit of increased EAP utilisation is that employees are addressing their problems with the intention that the process will eventually improve their overall well-being. Furthermore, this finding is important as it confirms that the EAP serves as an important link in the chain of resources available to employees requiring treatment or help (Deitz et al., 2005) for substance-related problems.

Substance abuse can lead to unprotected sex which could result in exposure and subsequent contraction of HIV/AIDS and other sexually transmitted infections. A third of employees in our sample, who also use alcohol, reported engaging in risky sexual practices when under the influence. It was found that employees who used alcohol were more likely to engage in sex without condoms, have sex with someone other than their main partner, or having multiple partners. Substance abuse prior to sex has been reported to increase the rate of unprotected sex (Kiene, Barta, Tennen, & Armeli, 2009; Kiene et al., 2008; Wechsberg, Luseno, Karg, et al., 2008). This is particularly worrying considering that numerous studies have confirmed the association between substance abuse and risky sexual behaviour (Kalichman, Simbayi, Jooste, Vermaak, & Cain, 2008; Parry, Carney, Petersen, Dewing, & Needle, 2009; Parry & Pithey, 2006; Simbayi et al., 2006). Participants in the study also reported that using their main substances of abuse increased sexual drive and enhanced their sexual experience. Hence, part of addressing substance abuse in the workplace should also include information and education about the effect of substance abuse on risky sexual practices.

5.14. CHAPTER SUMMARY

This chapter reported on the baseline results of a clustered RCT study. Alcohol was found to be the primary substance of use amongst persons employed within two divisions of a safety and security department at a local municipality. Exposure to risky work, job satisfaction and exposure to a climate favourable to drinking emerged as predictors for problematic alcohol use (days having more than five drinks). In addition hangovers were found to predict absenteeism. Absenteeism and presenteeism were strongly associated with being employed in the MP division. The study highlighted barriers to EAP utilisation and poor knowledge of the in-house substance abuse policy, further highlighting the need for comprehensive prevention programmes. Also emerging from these baseline findings is increased employee exposure to HIV and other sexually transmitted infections through unsafe sexual practices.

This study is important since there are relatively few research studies that focus on substance abuse in the South African workplace. This investigation of problematic alcohol and drug use among a representative sample of persons who are within formal employment in South Africa, will ultimately contribute to addressing this gap in current literature on alcohol and drug abuse in the workplace. This is important since substance abuse has repeatedly been shown to impact negatively on organisations through excessive absenteeism, accidents and injury, tardiness, job errors, lost productivity and increased health costs (Bennett et al., 2004; United Nations Office on Drugs and Crime (UNODC) India Office, 2010; World Health Organisation (WHO), 2010c).

The next chapter (chapter 6) will discuss the results of the clustered randomised control trial, used to test the effectiveness of the selected prevention programme on the target population.

Table 47 Alcohol use trends in the Western Cape - Household Surveys

STUDY NAME, STUDY DESIGN	STUDY DESCRIPTION		SUBSTANCE	ALCOHOL USE AND DRUG VARIABLES						SEVERITY INDEX
				Lifetime use (%)	Past 12 months (%)	Past 30 day use	Use in past week (%)	Daily use (%)	Binge/risky drinking (%)	
SOUTH AFRICAN DEMOGRAPHIC AND HEALTH SURVEY (2003) Household Survey (n = 13826)	Age range	15-all								
	Race	Overall								
	Sex									
	Geographical Area	Western Cape								
	Male		Alcohol	70.3	55.1		37.3		22.7 (w/e)	31.0 (Cage)-problem severity measure.
Female		Alcohol	39.2	28.8		18.8		27.0 (w/e)	9.6 (Cage)-problem severity measure	
STRESS AND HEALTH SURVEY (HERMAN et al., 2009) National Household Survey (n = 4351)	Age range	≥ 18 years								
	Race	All								
	Geographical Area	South Africa and Western Cape								
	Sex	Both	Substance abuse	13.3 20.6% in WC	5.8% 6.5% in WC					DSM IV Severity Index (Lifetime) Mild 56.7 (3.8) Moderate 12.5 (2.6) Severe 30.9 (4.3)

Table 47 Alcohol use trends in the Western Cape - Household Surveys

STUDY NAME, STUDY DESIGN	STUDY DESCRIPTION		SUBSTANCE	ALCOHOL USE AND DRUG VARIABLES						SEVERITY INDEX
				Lifetime use (%)	Past 12 months (%)	Past 30 day use	Use in past week (%)	Daily use (%)	Binge/risky drinking (%)	
SABSSMI 1 (Shisana et al., 2004) Cross sectional, representative national household survey (n=20626)	Age range	All ages								
	Race	All								
	Sex									
	Male		Alcohol		60.7	31.6	29.9	5.0		
	Female		Alcohol		41.3	37.0	47.6	3.8		
	Geographical Area									
SABSSMI-11 SHISHANA et al (2005) Cross sectional, representative national household survey (n = 23236)	Age	All								
	Race	All								
	Sex									
	Male		Alcohol			60.5				
	Female		Alcohol			39.1				
	Male		cannabis			6.8				
	Female		cannabis			1.5				
	Male		cocaine			0.7				
	Female		cocaine			0.3				
	Male		Amphetamine			0.5				
	Female		Amphetamine			0.7				
	Male		Opiates			0.2				
	Female		Opiates			0.1				
Geographical Area	Western Cape									

Table 48: Patterns of service seeking for persons presenting for substance abuse treatment at district social service offices (Cape Town)

Study name	SASS data (1817 cases)				SACENDU data		Comparison between substance users in SASS and SACENDU on gender		
	Substance abusers (n = 691)		Non-substance abusers (n = 1126)		Substance abusers only (n = 17631)		Test statistic (df)	P value	
SUBSTANCE ABUSE SURVEILLANCE SYSTEM (SASS) Burnhams et al (2012)	Gender	N	%	N	%	N	%		
	Male	459	66.8	430	38.2	13197	74.9	21.92(1)	<0.001
	Female	228	33.2	696	61.8	4434	25.1	21.93 (1)	<0.001

Table 49: Gender, by primary substance of abuse (Cape Town)

SACENDU (Dada et al., 2012)	South African Community Epidemiology Network on Drug Use (SACENDU)															
	%															
	Jan-Jun 2008		Jul-Dec 2008		Jan-Jun 2009		Jul-Dec 2009		Jan-Jun 2010		Jul-Dec 2010		Jan-Jun 2011		Jul-Dec 2011	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Alcohol	72	28	70	30	71	29	67	33	70	30	72	28	69	31	73	27
Dagga/Mandrax	91	9	93	7	88	12	93	7	91	9	86	14	89	11	94	4
Dagga	92	8	88	12	86	14	87	13	85	15	87	13	87	13	90	10
Crack	70	30	73	27	77	23	62	38	72	28	77	23	67	33	65	35
Cocaine																
Heroin	77	23	77	23	74	26	77	23	80	20	78	22	78	22	79	21
Ecstasy	86	14	25	75	67	33	-	-	-	-	100	-	100	-	33	67
OTC/PRE	27	73	38	62	68	32	43	57	34	66	38	62	50	50	29	71
Methamphetamine (‘Tik’)	71	29	73	27	72	28	73	27	69	31	73	27	70	30	72	28

CHAPTER 6

RESULTS OF A CLUSTERED RANDOMISED CONTROL TRIAL OF AN EVIDENCE-BASED SUBSTANCE ABUSE PREVENTION PROGRAMME

Chapter 6 of this thesis describes the findings from a clustered RCT that aimed to evaluate the effectiveness of a substance abuse and substance-related HIV risks prevention programme (Team Awareness) implemented amongst employees working in safety-sensitive jobs within two divisions in a safety and security department of a local municipality in the Western Cape. The logic model in chapter 1, section 1.8 describes the causal paths between the objectives of the study and the intervention that is tested.

6.1. PHASE 4 OBJECTIVES

Sub-Objectives:

- 4a) To compare at pre –intervention, immediate post-intervention and 3 month post intervention, the effects of the prevention intervention on:
- i. Employee knowledge of substance abuse and substance-related HIV risks.
 - ii. Employee patterns/frequencies of problematic substance use and associated substance-related HIV risk behaviours.
 - iii. Employee attitudes towards substance abuse and HIV/AIDS policies in the workplace, and the Employee Assistance/Wellness Programme.
 - iv. Employees experience of individual and group stress, group cohesion, drinking climates, stigma and consequences of substance abuse.
 - v. Employee help-seeking attitudes and behaviour.

6.2. SPECIFIC EVALUATION STUDY HYPOTHESES

Problematic Substance Use¹²

We hypothesised that participation in the intervention:

Hypothesis 1: Would have reduced past 30 day risky alcohol abuse (≥ 5 drinks on one occasion) among the employees studied from Time 1 – Time 3.

Hypothesis 2: Would be positively associated with a reduction in last 6 months going to work with a hangover from Time1 –Time 3.

Hypothesis 3: Would be positively associated with a reduction in last 6 months call in sick episodes because of hangover from Time1 — Time 3.

Hypothesis 4: Would have resulted in a reduction of problematic substance use as calculated by the CAGE scores from Time – Time 3.

Substance abuse policy knowledge

For those employees who received the intervention we hypothesised the following:

Hypothesis 5: Employee knowledge and understanding regarding the existence of an substance abuse policy would have improved from Time1 – Time 2.

Hypothesis 6: Employees understanding of the content of the substance abuse policy would have improved from Time 1 - Time 2 and sustained at Time 3.

EAP utilisation

We hypothesised that participation in the intervention would have:

Hypothesis 9: Increased willingness to use EAP for a personal or work-related problem would have improved from Time1 – Time 2 and sustained at Time 3.

¹² Changes to the substance abuse variables will be calculated from Time 1 to Time 3 considering that the variables ask about past 30 day use of alcohol. Post-intervention data collection occurred 2 weeks after baseline assessment and should therefore not be used to make a determination since this time assessment falls within the 30 day mark.

Hypothesis 10: Would be positively associated with employees recommending the use of the EAP to their fellow employees from Time1 – Time 2 and sustained at Time 3.

Drinking Climate

We hypothesised that participation in the intervention:

Hypothesis 8: Would be associated with a positive change in team drinking climate from Time 1 – Time 2 – Time 3.

Group cohesion and stress

We hypothesised that participation in the intervention would have:

Hypothesis 11: Increased group cohesion among employees from Time1 – Time 2 – Time 3.

Hypothesis 12: Would have improved employees coping abilities through a reduction in the experience of individual stress from Time1 – Time 2 – Time 3.

Tolerance and Responsiveness

We hypothesised that participation in the intervention would have resulted in the following changes from Time 1 – Time 2 – Time 3:

Hypothesis 7: Reduced tolerance of co-worker substance abuse thus improving responsiveness in encouraging and reporting substance abuse problems from Time1 – Time 2, with the effect sustained at Time 3.

Substance-related HIV risks

Hypothesis 13: We hypothesised that employee exposure to multiple HIV risks will have reduced from Time1 – Time 2 – Time 3.

6.3. RESULTS

6.3.1. PARTICIPATION AND COMPARABILITY OF SAMPLES

Of the 325 participants who participated in the study, 168 were randomly assigned to the intervention group (144 men and 24 women), and 157 participants were in the control group (138 men and 18 women). Of the 168 participants randomly assigned to the intervention group, 66 were MF participants and 102 were MP participants; and of the 157 participants in the control arm of the study, 62 were from the MF division and 95 from the MP division. Table 50 provides a description of the baseline characteristics of employees within the control, and intervention conditions. No significant differences between the intervention and control conditions were found.

Table 50: Baseline information (N = 325)

	Intervention Group (n)	Control Group (n)	P-value
Women	24	18	0.449
Men	144	138	
Mean Age	41.78 (21-57)	36.48 (21-60)	0.376
Education			0.398
Grade7-11	10	14	
Grade 12	121	114	
Tertiary	33	24	
Length of Employment			0.949
0-5 years			
5-10 years	24	23	
10-15 years	79	72	
More than 15 years	32	32	
	32	26	
Marital Status			0.245
Single	33	39	
Married	118	96	
Divorced	16	16	
Widowed	0	2	
Language			0.521
Afrikaans	72	62	
English	46	52	
Xhosa	35	34	
Other	15	9	

Past 30 day more than five drinks	112	101	0.254
CAGE Scores			0.304
0 (no risk)	69	70	
1	19	15	
2	12	9	
3	10	4	
4	3	4	
Total	113	102	
Hangovers	113	101	0.259
Never	81	66	
Less than monthly	20	20	
Monthly	8	10	
Weekly	4	4	
Daily or almost daily	0	1	

6.3.1.1. Attrition

Two hundred and thirty seven of the 325 (73%) participants completed post-intervention and 189 of the 325 (58%) completed three-month follow-up assessment (See Figure 13). Only employees who completed post-intervention questionnaires were followed up at time three or at three month follow-up.

Logistic regression analysis was used to assess the profiles of dropouts versus those that did not drop out, on specific variables. Analysis indicated that there were no significant differences between those who completed the intervention and those lost through attrition ($p > 0.05$) (see table 51), except that division emerged as significant predictor suggesting that participants in the MP divisions were twice more likely to dropout when compared to their MF counterparts (OR = 2.73; $p = < 0.001$; 95% CI = 1.67 – 4.44) (see table 51 below). Using a prediction model for completeness, a stepwise logistic regression model was used, entering all the baseline variables in the model with a probability of 0.1 to stay in the model. With the probability of a 0.1 stay-in, division (MP or MF) and age emerged as the best predictors (see table 52), although age was not a significant predictor. Age was therefore not adjusted for in subsequent analysis.

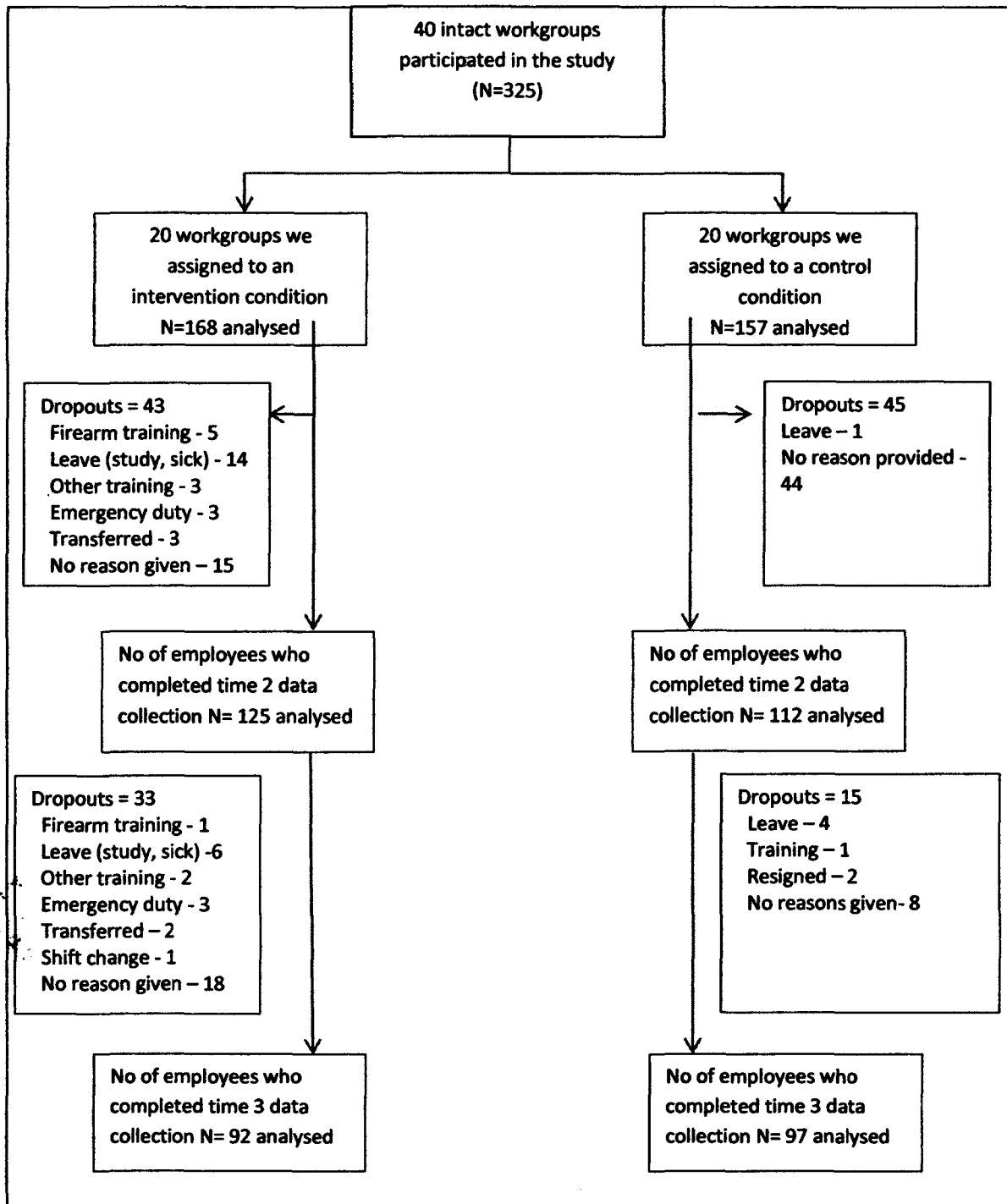


Figure 13: Flow diagram for cluster trial

Table 51: Predictors of dropout

Variables	Odds Ratio	Robust standard error	Z-score	P-value	95% CI	
Division (MF vs MP)	2.73	0.68	4.02	< 0.001	1.67	4.44
Gender (Male vs Female)	1.29	0.39	0.82	0.413	0.70	2.35
Age (for every year increment in age)	1.00	0.02	0.16	0.873	0.97	1.04
Education (Tertiary vs High School Education)	1.80	0.66	1.62	0.106	0.88	3.68
Language						
English	0.87	0.20	-0.59	0.552	0.56	1.36
Xhosa	0.59	0.21	-1.46	0.145	0.29	1.20
Other	1.22	0.51	0.47	0.635	0.54	2.75
Marital Status (Married/Partners vs other marital status)	0.99	0.26	-0.02	0.981	0.60	1.65
Length of employment (10+ years vs < 10 years)	0.86	0.20	-0.65	0.515	0.54	1.37
Past 30 day alcohol	1.00	0.03	0.01	0.989	0.95	1.06
Days >5 drinks in past 30 days	1.01	0.03	0.47	0.635	0.96	1.07
Going to work with hangover (Yes vs No)	1.04	0.30	0.13	0.893	0.60	1.81
Calling in sick because of hangover (Yes vs No)	1.37	0.58	0.74	0.458	0.60	3.12
CAGE 2+ (Yes vs No)	0.97	0.39	-0.07	0.944	0.44	2.14
Policy Knowledge (Yes vs No)	1.25	0.25	1.09	0.275	0.84	1.85
EAP Utilisation (Yes vs No)	1.41	0.31	1.57	0.116	0.92	2.16
Recommend EAP (Yes vs No)	1.55	0.40	1.72	0.086	0.94	2.56
Tolerance	1.01	0.13	0.05	0.957	0.78	1.29
Group cohesion	0.99	0.15	-0.07	0.945	0.74	1.33
Drinking climate	1.18	0.17	1.11	0.266	0.88	1.57
Individual stress	1.04	0.10	0.34	0.732	0.85	1.26

Substance-related HIV risk (Yes vs No)	1.06	0.09	0.68	0.498	0.90	1.24
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Table 52: Results of the Stepwise Logistic Regression model to predict dropout

Variable	Coefficient	Standard error	z	P value	95% Confidence Interval	
Division (MF or MP)	-0.247	0.057	-4.31	<0.001	- 0.359	- 0.134
Age	0.003	0.004	0.74	0.458	- 0.005	0.115

6.3.2. PROGRAMME EFFECTIVENESS

6.3.2.1. Having > 5 drinks in the past 30 days

Logistic regression modelling was used to evaluate the effect of TA on days having > 5 drinks in the past 30 days over time X group. The results show that TA had the greatest impact on days having > 5 drinks in the past 30 days (see figure 14 below). There was a significant Group X Time interaction ($F 1, 117) = 25.16, p < 0.0001$), with participants in the intervention condition significantly reducing their number of days having greater than five drinks from 2.1 days to 1.4 days, in the predicted direction. Participants in the control arm increased on days having > 5 drinks from 1.6 days at baseline to 2.1 days at 3 months follow-up. This difference presents a standardised effect size of 0.686 (95% CI= 0.616 - 0.749, $P = 0.000$), suggesting a moderate effect (see chapter 2, section 2.6). Considering that intervention sought to see a reduction in number of days having >5 drinks, the corresponding effect size in days is 1.99 (95% CI = 1.85 - 2.11; $P = 0.000$). Table 53 below outlines the mean, standard error and 95% confidence intervals.

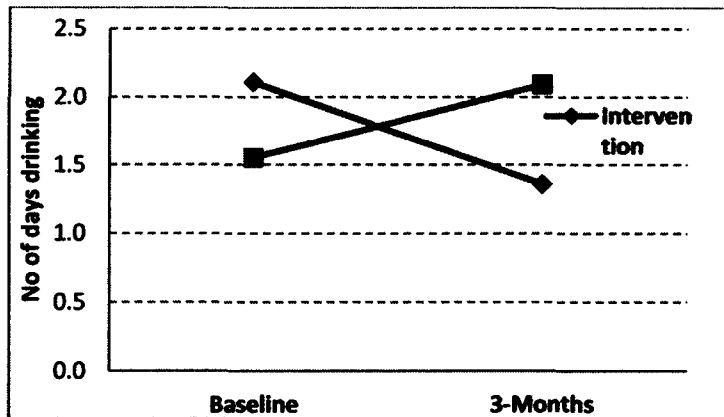


Figure 14: Number days past month drinking 5+ drinks

Table 53: Days having >5 drinks in past 30 days: Means, standard errors and confidence intervals

	Intervention		Control	
	Baseline	3 Month follow-up	Baseline	3 Month follow-up
	N=136	N=75	N=121	N=63
Days having 5+ drinks in past 30 days				
Mean	0.070	0.045	0.052	0.070
SE	0.010	0.007	0.008	0.012
95% CI	0.053-0.093	0.033-0.062	0.038-0.071	0.050-0.097
Effect Size (1 v 3)				
	0.686	(95% CI= 0.616 - 0.749,	P = 0.000	

6.3.2.2. Going to work with a hangover or calling in sick as a result of a hangover

Results indicate that there were no significant group x time interaction on the variable going to work with a hangover ($F_{1,117} = 0.24, p = 0.626$); or calling in sick with a hangover ($F_{1,117} = 0.01, p = 0.905$) (see table 54). There was however a significant time effect with participants in both the intervention and control conditions reducing the likelihood of going to work with a hangover ($F_{1,117} = 4.10, p = 0.045$). In relation to calling in sick with a hangover, results suggest that there was also an effect of time, such that participants in both the control and intervention condition reduced the likelihood of calling in sick because of a hangover, but the result is borderline ($F_{1,117} = 3.38, p = 0.068$). An effect size of 0.5692 (95% CI: 0.299 - 0.804; $p = 0.6266$) was found on going to work with a hangover and

0.524 (95% CI: 0.188 - 0.839, $p = 0.906$) on calling in sick, these are however not significant effect sizes.

Table 54: Means and standard errors of calling in sick or going to work with a hangover at baseline and at 3 month follow-up.

	Intervention		Control	
	Baseline	3 Month follow-up	Baseline	3 Month follow-up
	N=136	N=75	N=121	N=63
Past 6 months - how often go to work with hangover				
Mean	0.233	0.129	0.276	0.198
SE	0.041	0.041	0.047	0.055
95% CI	0.161-0.324	0.067-0.234	0.193-0.379	0.11-0.33
Effect size (1v3)				
	0.5692	(0.299-0.804)	$p=0.6266$	
	Intervention		Control	
	Baseline	3 Month follow-up	Baseline	3 Month follow-up
	N=136	N=75	N=121	N=63
Past 6 months - how often call sick hangover				
Mean	0.095	0.046	0.111	0.060
SE	0.029	0.023	0.033	0.029
95% CI	0.051-0.169	0.017-0.121	0.061-0.194	0.022-0.152
Effect size(1v3)				
	0.524	(0.188-0.839)	$p=0.906$	

6.3.2.3. CAGE scores

Analyses were also conducted with participants who reported a CAGE score >2 which indicates problematic use of alcohol. We conducted logistic regression modelling and found no significant group x time intervention effect ($p > 0.05$), see table 55 below. Despite the lack of a significant finding, the findings suggest a decrease in problematic alcohol abuse in the intervention group, in the right direction. This effect was also observed in the control arm of the study. A standardised effect size of 0.549 (0.239-0.825, $p=0.977$) is reported representing a small effect although this was not found to be significant.

Table 55: Means and standard errors of CAGE at baseline and at 3 month follow-up.

	Intervention		Control	
	Baseline	3 Month follow-up	Baseline	3 Month follow-up
	N=136	N=75	N=121	N=63
CAGE				
Mean	0.177	0.099	0.136	0.089
SE	0.035	0.035	0.033	0.037
95% CI	0.118-0.257	0.048-0.194	0.082-0.215	0.038-0.193
Effect size (1v3)				
	0.549	(0.239-0.825)	p=0.977	

6.3.2.4. Awareness of the existence of a substance abuse policy

Random effects' modelling was used to evaluate the effect of TA on employee knowledge of the existence of a substance abuse policy in the municipality. There was a significant group X time interaction $F(1,228) = 4.76, P = 0.03$, with employees in the intervention condition becoming more aware of the existence of such a policy from baseline ($M = 0.795; SE=0.043; 95\% CI 0.698-0.867$) to time 2 ($M = 0.858; SD = 0.038; 95\% CI 0.766 - 0.918$) when compared to employees in the control group ($M = 0.841; SE=0.037; 95\% CI 0.754 - 0.902$ to $M = 0.754; SE = 0.053; 95\% CI 0.635 - 0.843$). This difference presents an effect size of 0.270 (CI: 0.131-0.476, $p=0.0301$), suggesting a small yet significant effect size. See figure 15 below.

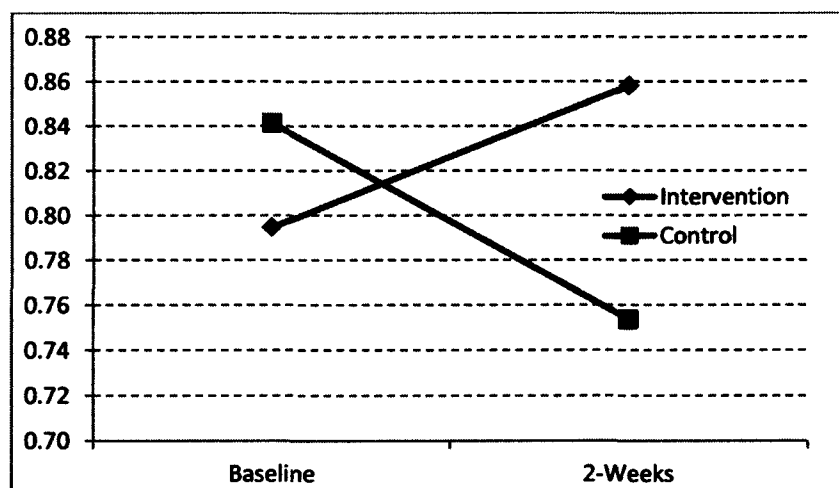


Figure 15: Substance abuse policy

6.3.2.5. Knowledge about the content of the policy

The results from this study show an increase in degree of employee knowledge from baseline (M = 2.176; SE = 0.085; 95% CI = 2.009 – 2.343) to M = 2.223 at time 2 (SE = 0.090; 95% CI = 2.046 - 2.399) and to M = 2.32 at 3 month follow-up (SE = 0.095; 95% CI = 2.137 – 2.510) (see figure 16 below), but this had no statistically significant group x time intervention effect ($F_{2,366} = 2.03, p = 0.133$). An effect size of 0.1875 (CI: -0.021 - 0.396, $p = 0.0782$) is reported, which was not significant.

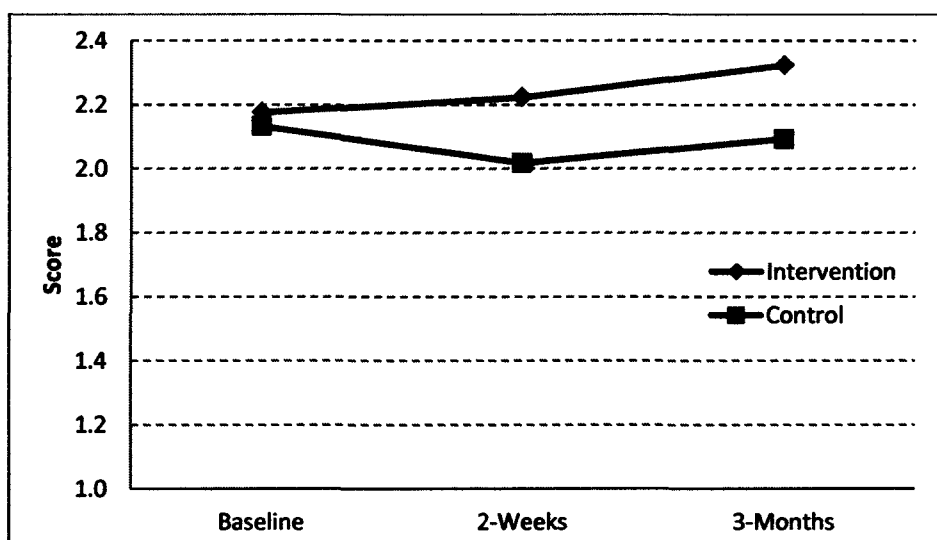


Figure 16: Increases in knowledge about the content of the substance abuse policy.

6.3.2.6. Willingness to use the employee assistance programme (EAP) at work

Although the data reflects a slight increase (in the predicted direction), from Time 1 to Time 2, in the likelihood of participants in the intervention condition using the EAP programme at their workplace, and a slight decrease for employees in the control condition, the effect was not sustained at 3 month follow-up. Analyses found no significant group X time interaction on the variable 'willingness to use the EAP at work' ($F_{2,334} = 0.77, p = 0.46$) (See table 56 below).

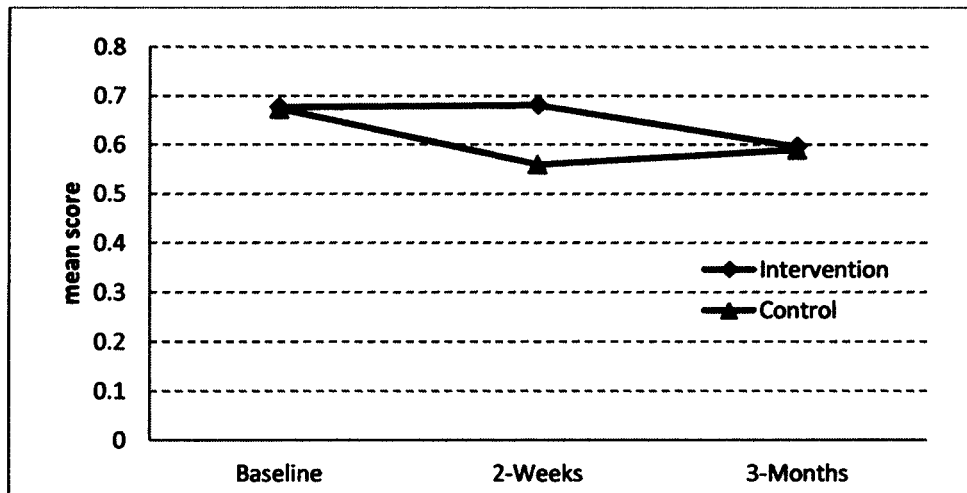


Figure 17: Willingness to use EAP

Table 56: Means and standard errors of willingness to use EAP at Time 1 and Time 2 and time 3.

	Intervention			Control		
	Baseline	2 Week follow-up	3 Month follow-up	Baseline	2 Week follow-up	3 Month follow-up
	N=155	N=117	N=89	N=136	N=99	N=90
Willingness to use EAP						
Mean	0.676	0.681	0.596	0.673	0.559	0.589
SE	0.063	0.067	0.079	0.061	0.078	0.079
95% CI	(0.543-0.786)	(0.537-0.797)	(0.436-0.738)	(0.545-0.780)	(0.406-0.702)	(0.431-0.732)
Effect size						
Effect size (1 v 2)	0.671	(0.447-0.837)	p=0.1306			
Effect size (2 v 3)	0.561	(0.325-0.772)	p=0.6217			

6.3.2.7. Likelihood of recommending the employee assistance programme to a co-worker who might need help

Regression analyses indicated that although participants in the intervention condition increased on the variable 'likelihood of recommending the EAP to a co-worker' (see figure 18 below), the results were not significant. In comparison there was a decrease in the likelihood of recommending the EAP on the part of control participants. No significant group

X time interaction was found between the intervention and control conditions at baseline and two week and 3 month follow-up $F(2,350) = 1.40, p = 0.24$. The differences represent a non-significant effect size (see table 57 below).

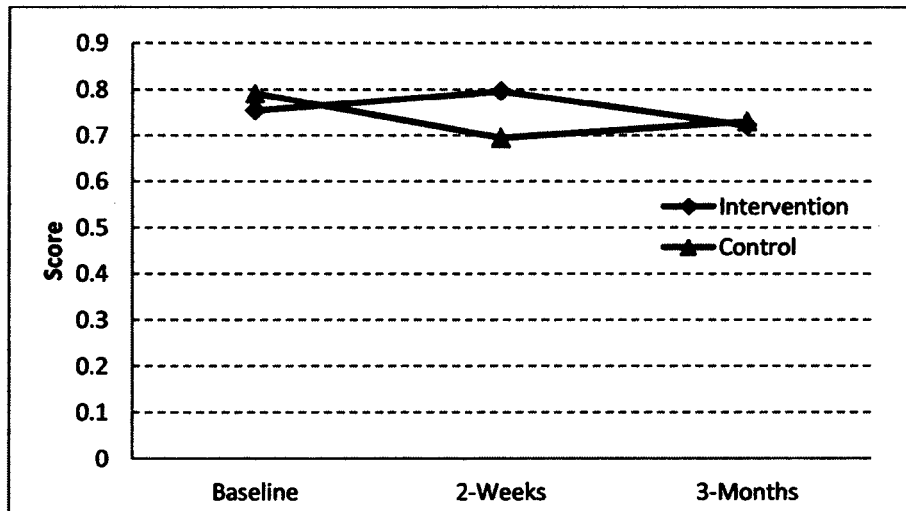


Figure 18: Likelihood of recommending the EAP to a co-worker with a problem

Table 57: Means and Standard errors of likelihood of recommending the EAP

	Intervention			Control		
	Baseline	2 Week follow-up	3 Month follow-up	Baseline	2 Week follow-up	3 Month follow-up
	N=143	N=114	N=86	N=141	N=96	N=84
Recommended EAP						
Mean	0.753	0.796	0.720	0.790	0.694	0.730
SE	0.056	0.053	0.070	0.049	0.067	0.066
95% CI	(0.753-0.056)	(0.796-0.053)	(0.72-0.07)	(0.79-0.049)	(0.694-0.067)	(0.73-0.066)
Effect size (1 v 2)	0.623	(0.385-0.814)	p=0.3106			
Effect size (2 v 3)	0.559	(0.315-0.778)	p=0.6435			

6.3.2.8. Drinking climate

Hypothesis 11 proposed that participant exposure to team awareness is associated with a positive change in team drinking climate from Time 1 – Time 2 – Time 3. Random effects modelling on baseline, pre-test to 3 month follow-up did however not reach significance on

group x time effect: $F(2,413) = 2.15, p = 0.11$). Table 58 below presents the proportions of workplace drinking climate at Time 1, Time 2 and at three-month follow-up, for both the intervention and control conditions. The table demonstrates an increase in workplace drinking climate amongst those in the intervention arm, from Time 1 ($M = 2.93$) to Time 2 ($M = 2.88$) in the right direction, but the effect was not sustained at 3 month follow-up ($M = 2.91$). Contrary to predictions there was marginal improvement in workplace drinking climate, at three month follow-up, for employees in the control arm of the study with an effect size of 0.203 (see table 58 below).

Table 58: Means and standard errors: Workplace drinking climate over three time periods

	Intervention			Control		
	Baseline	2 Week follow-up	3 Month follow-up	Baseline	2 Week follow-up	3 Month follow-up
	N=166	N=126	N=93	N=155	N=109	N=95
Workplace Drinking Climate						
Mean	2.934	2.883	2.910	2.954	2.970	2.775
SE	0.090	0.095	0.101	0.089	0.096	0.098
95% CI	(2.757-3.111)	(2.696-3.069)	(2.712-3.108)	(2.778-3.130)	(2.782-3.158)	(2.582-2.968)
Effect size						
	0.203	(-0.003-0.409)	$P = 0.0535$			

6.3.2.9. Group cohesion

Hypothesis 15 predicted an increase in group cohesion amongst employees from Time 1 – Time 2 – Time 3. The results reported no group x time intervention significance $F(2,421) = 1.39, p = 0.24$). Analyses does however suggest a significant overall time effect with levels of cohesion increasing between baseline and post-test for those in the intervention condition ($p = 0.000$) but was not sustained at time 3. An effect size of 0.12 is reported, and is not significant (see table 59).

Table 59: Means and standard errors: Group Cohesion (time 1, time 2 and three-month follow-up).

	Intervention			Control		
	Baseline	2 Week follow-up	3 Month follow-up	Baseline	2 Week follow-up	3 Month follow-up
	N=169	N=126	N=93	N=156	N=110	N=96
Group Cohesion						
Mean	3.302	3.464	3.273	3.482	3.520	3.389
SE	0.069	0.073	0.077	0.068	0.072	0.075
95% CI	(3.166-3.439)	(3.32-3.607)	(3.121-3.424)	(3.349-3.616)	(3.378-3.663)	(3.242-3.535)
Effect size (1 v 3)						
	0.1237	(-0.035-0.282)	p=0.1263			

6.3.2.10. Individual stress

We hypothesised an improvement in employee coping abilities through a reduction in the experience of individual stress from Time1 – Time 2 – Time 3. The results are however contrary to predictions and point to a significant group x time effect but in the wrong direction $F(2, 419) = 3.62, p = 0.027$ (see Figure 19). Participants in the intervention group increased in the experience of individual stress (see table 60 below). The experience on individual stress in the control arms of the study are however higher than those reported at baseline in the intervention condition. The difference reported represents a standardised effect size of -0.21.

Table 60: Means and standard errors: Individual stress (time 1, time 2 and three-month follow-up).

	Intervention			Control		
	Baseline	2 Week follow-up	3 Month follow-up	Baseline	2 Week follow-up	3 Month follow-up
	N=168	N=126	N=93	N=155	N=111	N=95
Individual stress						
Mean	2.751	2.722	2.959	3.042	3.070	3.032
SE	0.073	0.079	0.085	0.075	0.082	0.085
95% CI	(2.607-2.895)	(2.567-2.877)	(2.791-3.127)	(2.894-3.190)	(2.909-3.231)	(2.864-3.200)
Effect Size (1 v 3)						
	0.2184	(0.166-0.420)	P = 0.034			

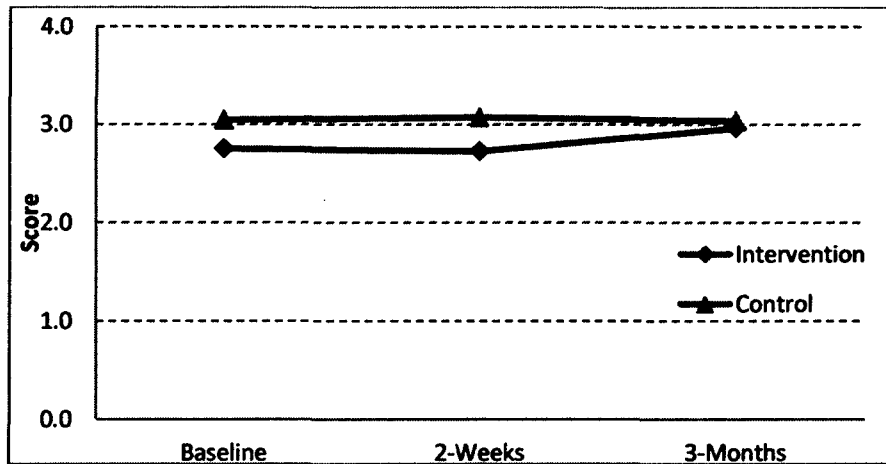


Figure 19: Experience of individual stress

6.3.2.11. Tolerance and responsiveness

Results (see table 61) suggest that TA had no significant group x time effect on the variable tolerance and responsiveness $F(2, 409) = 1.05, p = 0.349$). Contrary to study predictions, there was a marginal decrease amongst those in the control condition, with participants indicating that they were less likely to tolerate an employee with a substance abuse problem from Time 2 ($M=2.42$) to Time 3 ($M = 2.35$) but this was not significant. The differences reported represent almost no standardised effect 0.01.

Table 61: Means and standard errors: tolerance (time 1, time 2 and three-month follow-up).

	Intervention			Control		
	Baseline	2 Week follow-up	3 Month follow-up	Baseline	2 Week follow-up	3 Month follow-up
	N=164	N=126	N=91	N=153	N=109	N=94
Tolerance and Responsiveness						
Mean	2.414	2.402	2.420	2.338	2.425	2.358
SE	0.046	0.051	0.057	0.048	0.054	0.057
95% CI	(2.323-2.504)	(2.302-2.501)	(2.308-2.531)	(2.244-2.431)	(2.320-2.531)	(2.246-2.469)
Effect Size (1 v 3)						
	0.01403	(-0.14-0.168)	$p=0.8584$			

6.3.2.12. Substance-related HIV risks

Although not statistically significant, findings from the substance-related HIV outcome measure suggests that employees in the intervention arm of the study increased in exposure to substance-related HIV risks between baseline and 3 months follow-up (see figure 20 and table 62 below).

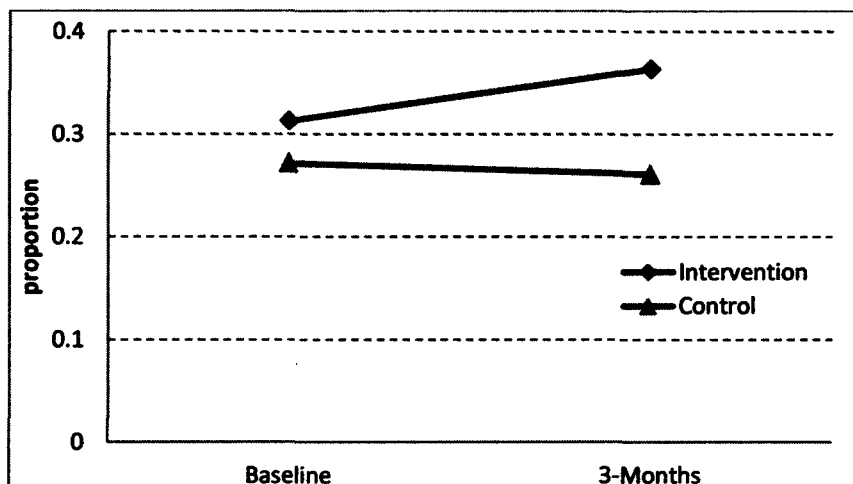


Figure 20: Substance-related HIV risks (%)

Table 62: Means and standard errors: substance-related HIV risks

	Intervention		Control	
	Baseline	3 Month follow-up	Baseline	3 Month follow-up
	N=136	N=80	N=128	N=79
Substance-related HIV risk				
Mean	0.313	0.363	0.272	0.261
SE	0.051	0.066	0.048	0.059
95% CI	(0.222-0.421)	(0.245-0.501)	(0.187-0.376)	(0.162-0.392)
Effect size (1 v 3)				
	0.4298	(0.230-0.656)	p=0.5480	

6.4. INTERPRETATION OF FINDINGS

This phase of the study explored whether a substance abuse and substance-related HIV prevention programme had significant effects over and above that of a control group. As indicated in the methodology chapter (see chapter 2 section 2.6). Random effects modelling were used to analyse the clustered data.

In discussing the findings the researcher will use available literature, but will also use information gleaned from the interactive TA group discussions with participants during the actual training sessions. Although these processes did not follow qualitative data collection and research processes, it is the opinion of the researcher that the information recorded is important since it provides useful insights that can be used to substantiate some of the research findings, and provide a backdrop to some of the outcomes. Employee responses were recorded on newsprint, and the interventionists (during their debriefing sessions with the researcher) informed the researcher of interesting discussion points and information that emerged out of the intervention sessions and group discussions.

Hypothesis 1 of this study was supported. The results suggest that employees who received Team Awareness showed significant reductions in binge drinking (>5 drinks) from baseline to three month follow-up with a moderate effect size reported. This result is encouraging as it suggests that programmes such as TA that are based on the principles of social health promotion are useful for addressing problem drinking within the workplace (Bennett et al., 2004). This result is not only evident from this study, but consistent with various literature sources who report on the success of TA in reducing problematic drinking (Bennett et al., 2004; Bennett et al., 2003; Cook & Schlenger, 2002; Hennessy et al., 2006). According to Anderson and colleague, any reductions in substance abuse or substance-related HIV should be considered essential to long term well-being (Anderson & Larimer, 2002) and promoted within workplace settings (Ramchand, Pomeroy, & Arkes, 2009). Substance abuse disorders and substance-related HIV remain serious public health issues that are also prevalent among workers (European Alcohol and Health Forum, 2011; Ramchand et al., 2009).

Studies conducted by Bennett and colleagues found significant reductions in hangovers among employees receiving TA (Bennett et al., 2004). Although a drop in the frequency of going to work with a hangover or calling in sick with a hangover was predicted and reported amongst those that received the intervention, the results were not significant. Findings point to a significant time effect for both the intervention and control group. This change or reported drop in hangovers among those in the control group may be attributable to the short non-substance abuse and substance-related HIV talk presented to those in the control group. The information talk focused on general wellness, but did not touch on substance

abuse (including hangovers) or substance-related HIV, but may have contributed to a change among those in the control group. In addition, the measure used to measure hangovers was a 6/12 month measure and follow-up time was three months. This represents a limitation in the choice of measure used which may have further affected the variable outcome. Despite the lack of intervention effect significance reported on the hangover outcomes, the drop in going to work with a hangover reported for both the control and intervention condition was in the right direction and may suggest an overall change in the reported patterns of alcohol consumption. As noted earlier in this chapter, work related drinking and hangovers impact on worker productivity and quality of working life and place employees at risk for accidents and injuries as well as poor productivity and absenteeism and changes to such harmful behaviours are welcomed. No further significant findings on the remainder drinking variables were found, including the CAGE variable. This may be a result of the effects of a high level of attrition and power needed to conduct analysis.

Additionally, hypothesis five of this study is also supported. Employee knowledge of the existence of a substance abuse policy increased from time one to time two amongst those in the intervention arm of the study, and reduced significantly in the control group with a reported effect size of 0.94. This finding is important since knowledge of the existence of a policy and a favourable attitude towards substance abuse policy have the potential to regulate substance abuse within a workforce. This assumption is based on studies conducted by Bennett and colleagues and is supported in the conceptual framework of the TA prevention programme (Bennett & Lehman, 1997; Bennett et al., 2000; Bennett et al., 2004). The policy module of TA allows for interactive, group discussions on policy as well as the use of a board game on 'risks and strengths' that encourages active interaction between participants and interventionists. Interestingly, feedback from interventionists on conclusion of the study and as part of their debriefing process, suggested that the board game summarised the session on policy through highlighting that policies provide employees with avenues of help and are not designed for only disciplinary-related issues. It was also interesting to find that employees are generally lax about company policies, with very few taking the time to learn and brief themselves on actual policy content. The sessions

appeared to highlight the importance of policy as well as the importance of familiarising oneself with its contents.

Despite the fact that the findings on willingness to use the EAP was found to be statistically insignificant, the study saw a marginal increase from time 1 to time 2 of the study, but this was not sustained at time 3. The aim of TA was to encourage help-seeking behaviour to EAP and/or other resources through creating an understanding and awareness of the benefits of the EAP programme in the context of the company substance abuse policy. During the actual interactive group sessions and on reviewing the process notes kept by the interventionists, it is clear that a great deal of uncertainty and wariness exists around the existing in-house EAP policy. This is further witnessed in the baseline findings where employees indicated that they were reluctant to access EAP services. Although there was a marginal change in perceptions and perhaps increased understanding of the EAP, participants felt that changes within the EAP service itself should occur. This statement is informed by comments made by participants during the group sessions. This finding is therefore important in the context of the municipality and will be addressed within the section relating to recommendations, since literature suggests that there are certain organisational factors that impede on utilisation of EAP services, such as perceptions around the neutrality and confidentiality of EAP services (Azzone et al., 2009; Reynolds & Lehman, 2003); manager support for the programme (Azzone et al., 2009; Bennett & Lehman, 1997; McCann et al., 2011); stigmatisation (Cook & Schlenger, 2002), EAP service quality and programme awareness (Anderson & Larimer, 2002; Azzone et al., 2009).

Moreover the findings suggest that the likelihood of recommending the EAP to a co-worker with a problem increased from time 1 to time 2 but was not sustained at time 3. As indicated above, there appears to be other factors, unique to the in-house EAP service that may contribute to employee reluctance. This finding is important for the participating organisation in the study since the purpose of addressing substance-related problems is to ensure the appropriate and direct referral for help. If in-house EAP services are perceived as lacking on key principles such as confidentiality, this may pose problems and ultimately work against what is considered the capstone of TA training, peer referral. During the session training participants were encouraged to view helping and peer referral as part of

teamwork and to view enabling and tolerance as detrimental or contrary (Bennett et al., 2000) to creating sound team social relations. Help seeking and peer encouragement was found to predict EAP utilisation in an earlier study by Bennett (Bennett & Lehman, 2001). Participants were however not in full support of internal referrals but did indicate the likelihood of utilising outside services and support.

Results from the clustered RCT also reported on the results from the drinking climate measures. The results, although not statistically significant, point to only a slight decrease in the drinking climate measure. It should however be noted that baseline reports on drinking climate did not indicate a seriously problematic drinking climate. Despite this some interesting discussions emerged from interactive group discussions with the participants, particularly the MP division. According to the interventionists, continued reference was made to the importance of 'spanbou'¹³. According to the participants, these breakaways are part of MP team culture and are characterised, by certain work areas getting together on a Friday or Saturday to 'de-stress'. Employees club together to purchase alcohol and the evening is spent socialising and drinking. These 'spanbou' sessions, take place every other month and is seen as part of MP team culture (throughout the division) and therefore part of the workplace drinking climate but also organisational culture. Although the safety of these breakaways received much discussion, with participants reporting that employees have lost their lives, and some have had serious motor vehicle accidents, they are still continued and have not ceased since TA training. Literature clearly states that the presence of a supportive 'drinking' climate (characterised by drinking together and tolerating drinking problems) could support and sustain existing problems related to substance abuse (Bennett & Lehman, 1998; McCann et al., 2011). It is further argued that a drinking culture can even exist at an organisational level (McCann et al., 2011), suggesting that changes should be brought at these higher levels to support change at other levels such as at the team level. For instance, if a company supports lunchtime drinking of alcohol or houses a pub or bar on its premises for after-hours socialising, it stands to reason that this would support the existing drinking climate. Workplaces are therefore encouraged to bring about changes to

¹³ The Afrikaans term for team building.

aspects that encourage harmful use of alcohol, as this will affect the development of an overall improved attitude against risky substance abuse (McCann et al., 2011).

The above discussion ties in strongly with the discussion of the results on hypothesis 11 on group cohesion. Despite improvement in group cohesion reported in studies by (Bennett & Lehman, 1997; Bennett et al., 2004), the hypothesis in relation to this study is not supported since no significant time x group interaction was found. A change in level of group cohesion, in the predicted directions was however reported from pre-test to post-test but not sustained at time three follow-up. It is evident from literature that group cohesion and a positive drinking climate acts as a buffer against problems with alcohol use, since team support rules out behaviours related to the hazardous use of alcohol (Ames, Grube, & Moore, 2000; Bennett & Lehman, 1998). In trying to understand possible contributors to this lack of significant change reported, the researcher found that issues emerging within the actual group sessions may contribute to the disconnect. For instance, from TA group discussions, and from experience in setting dates for various teams to meet for part of the TA training, it was found that rotation of staff to different work stations/areas was a common factor in both MP and MF divisions. In the MF division, a major policy change occurred during the study roll-out period. MF management introduced the Global Rotation System, which stipulates that every MF employee will be rotated from one station to a next station every few months. This change brought about a tremendous amount of unhappiness among some employees since many of them had worked with one team for a good many years. Although, the rotation policy did not affect those in the MP divisions, it was found that MP employees are again often sent to cover areas that are short staffed and to join a different team (not their daily work team) for a day or sometimes a week or more. This may not solely explain the reasoning but helps to shed light and facilitates a better understanding of the results emerging from this study.

Findings related to the experience of individual stress were however unclear as it signalled an increase in individual stress for those in the intervention condition and this was found to be significant. One cannot attribute this increase to organisational factors since no change was reported among those in the control arm of the study. The researcher however wants to highlight that unlike the control participants, the average scores on individual stress were

below three. On the likert scale (see Annexure D, section B13), a baseline score of 2.75 and a score of 2.95 at 3 month follow-up still suggests that employees agree that they have lower levels of individual stress, since a score of 3 and up would be indicative of the experience of high individual stress. Therefore, despite the results being statistically significant, they are perhaps not clinically significant since the results do not suggest a move from a position of no stress or minimal stress, to a state of acute stress. In addition, an awareness of one's harmful behaviours or practices, such as substance abuse and substance-related risk, may elevate the experience of individual stress as the individual seeks to address these problem behaviours. Additionally, there could also be an increased willingness to acknowledge the experience of stress considering that participants reported it once at baseline. Participants may feel less inhibited to report the experience of stress a second time around.

Surprisingly and contrary to study prediction, TA was expected to reduce tolerance (enabling behaviours and co-dependence) of risky levels of substance abuse, but the study reported no change. It is clear from the baseline findings and participant answers to single item questions that employees were more likely to engage in behaviours that tolerate rather than respond appropriately to co-worker substance abuse (Reynolds & Lehman, 2003). Tolerance of substance abuse problems amongst co-workers may result or stem from a possible disconnect from policy, for instance a group's informal norms may run counter to the formally written policy (McCann et al., 2011). Other factors, such as the 'spanbou' culture, may also contribute to tolerance. Additionally, an inability to cope with work-related problems thus avoiding the problem (apathy) (Bennett et al., 2000) may also be causes. In other instances it may be a lack of understanding in relation to the risks involved. It is clear from this study that such factors may be potential contributors to the study findings. Tolerance of risky behaviours was however also explored with participants (within the group discussion context) who received the intervention. Emerging from the discussions was reference to a divide between management and staff which was most evident among MP employees. The opinions of MP participants were, management was not to be trusted, and the perception was that those at lower levels have to look after themselves and each other. As a result, there was increased inclination to tolerate risky behaviour, as it was seen as 'covering someone's back' or 'shielding/protecting colleagues from management'. In the

MP division, employees would cover for an intoxicated individual or a co-worker with a hangover by allowing him to sleep off his hangover at the back of an emergency vehicle. This was not perceived as tolerance, but rather 'protecting the individual' from management, since management have relaxed rules around their own drinking habits. For instance it was said that, that senior management would cover-up use of a senior MP employee. These practices are considered problematic, since it highlights a general culture of acceptance of substance abuse in an organisation. Unless all employees, including management, are subjected to the rules and regulations of a substance abuse policy the hope of workplace free from substance abuse may not be realised (McCann et al., 2011).

Findings from the RCT analyses regarding associations with substance-related HIV risks were somewhat contradictory in nature. At baseline data collection time points, reports from fieldworkers indicated that Section I of the workplace questionnaire (see Annexure D) was poorly answered, but that it also became a joke among participants. There were concerns regarding the accuracy of participant responses in this section, and with some participants refusing to answer the section in question. Some participants clearly provided inaccurate data, for instance, jotting down responses such as they had sex 10 000 times in the past six months. The data analysed appears to give the impression that substance-related HIV risk increased at Time 3 data collection. Follow-up with fieldworkers, who did data collection for the intervention groups, shed some light indicating that they had continuously encouraged honesty, emphasising confidentiality of information as well as the accuracy of information. Feedback from fieldworkers also suggests that participants did not understand the relevance of risky sexual behaviour questions to substance abuse or the TA programme, thus creating suspicion. It is assumed that participants reported more honestly at time 3, since the intervention would have increased awareness on the risks of contracting HIV and other STI infections. Similar results were reported in a study by Torrone and colleagues where participants reported a resistance to disclosing HIV risks since they did not understand the purpose of the risk valuation (Torrone et al., 2010). In addition there are generally numerous barriers, such as confidentiality and anonymity, related to disclosure of not only sexual risk behaviour but any issue related to individual sexual health (Baelden, Van Audenhove, & Vergnani, 2012). Lack of knowledge and HIV risks and the perception that one is not at risk is also a contributing factor more so among middle aged adults (Lance

Coleman, 2007). There may also have been resistance to answering HIV related questions since the fieldworkers and interventionists were majority female. This may have acted as a barrier since both divisions are traditionally male dominated environments. This would however need further exploration in future study.

However, what remains clear is that there exists some resistance to answering self-report questionnaires that seek answers on participant substance-related HIV risk behaviours. The use of self-reported measures alone in workplace research on substance abuse and HIV should therefore be carefully considered until an exploration of possible barriers and alternate data collection methods is conducted.

In respect of the validity of findings, analysis confirmed that there were no significant baseline differences on any of the variables used. Analysis used to predict differences among employees who dropped out of the study versus those who completed the study were also not significantly different. It should be noted that the research study was burdened by (58%) dropout rate. Although this is not unique to studies conducted in workplace settings, it does pose some challenges which are addressed in chapter 8 of this thesis (Bennett et al., 2003; Cook et al., 1996b). It is therefore advisable to use the estimates of effect sizes as approximations of effect sizes that one would have obtained if the study was not burdened by attrition (Kemmler, Hummer, Widschwendter, & Fleischhacker, 2005).

In addition, and as indicated in chapter 2, the researcher monitored interventionist fidelity through spot visits and audio recordings of the sessions. Although the researcher is confident that interventionists delivered TA with fidelity, there may be factors that could have contributed to the inability of the study to generate certain hypothesised effects. For instance, the interventionists were mostly female and this may have acted as a barrier since both divisions employ mostly males and are often referred to as a male dominated environment. In addition, initial resistance to participate (on the part of the participants) may have also impacted on information intake, particularly at the start of the intervention.

6.5. CHAPTER SUMMARY

The results from the RCT confirm that the TA workplace substance abuse and substance-related HIV prevention reduced days having more than five drinks for those employees randomised to the intervention arm of the study, with participants in the control arm reporting an increase in days having more than five drinks. The study also reported significant changes to employee knowledge of the existence of the substance abuse policy. Although no significant group x time changes were observed in any of the remaining variables, significant time effects were reported on the variables 'going to work with a hangover' or 'calling in sick with a hangover'. The study also found an overall time effect with group cohesion increasing between time one and time two, but not sustained at time three of the study. The research study was also plagued by a 58% attrition rate, and subsequent reduction of power, which could contribute to the lack of significance found on some variables.

Chapter 7 will review the perceptions of management regarding the operational aspects of the implemented prevention programme.

CHAPTER 7

PERCEPTIONS OF ORGANISATION MANAGEMENT REGARDING THE OPERATIONAL ASPECTS OF THE PREVENTION PROGRAMME.

7.1. INTRODUCTION

This chapter will describe the results emanating from the qualitative data collection process. Opinions and perceptions of key informants (managers and EAP/EWP staff) on the suitability of implementing the adapted intervention programme in the local municipality will be described. The guiding objective for this phase of the research study was:

- To explore and describe perceptions of organisation management regarding the operational aspects of the prevention programme.

To achieve this objective, Key Informant Interviews (KIIs) involving a total of eight participants were conducted across two different departments of the organisation where the effectiveness of an evidence-based workplace substance abuse and substance-related prevention programme within the services industry were tested in Cape Town, South Africa.

The qualitative study was undertaken to ascertain the degree of concordance between the results of the baseline study and clustered RCT, and to raise issues for consideration in future research.

7.2. RESULTS

7.2.1. PARTICIPANTS' DEMOGRAPHIC CHARACTERISTICS

Place of work:	Five staff members are based at the head office of the local municipality. One staff member is based in Khayelitsha, one in area MP North and one in area MP East.				
Type of work:	District Commander Head Substance Abuse Coordinator Area Manager Professional officer, Employee Wellness, Service Quality Area Manager Coordinator Service Quality (Employee Wellness) Supervisor Supervisor				
Area of work:	Management				4
	EAP (Employee Assistance Programme)				1
	EWP (Employee Wellness Programme)				1
	Senior Supervisors				2
Age Categories:					
	25-29	30-34	35-39	40-44	45 & up
		1	3	2	2
Gender	Male 6 Female 2				

7.2.2. RESEARCH METHODS FOLLOWED

Participants for the Key Informant Interviews (KIIs) were recruited through purposive sampling and participated in semi-structured interviews. Although the initial intention was to collect data via focus groups (with at least two focus groups (MP and MF) with eight participants in each), the researcher had to forego this intention due to the difficulties in recruiting senior management and supervisors for groups. The project manager and researcher were only able to recruit eight participants for the semi-structured interviews. Attaining the anticipated number of 16 participants was not feasible due to the difficulties described.

7.2.3. RESULTS

The researcher will report on the major themes that emerged from the eight interviews. The research findings will be discussed under the headings of the main themes that emerged under each of the questions posed to the KII participants. Each theme will be discussed, paying attention to the most illustrative quotations used by the participants. Literature will be used to add support to the study findings (Cresswell, 1994; De Vos, 1998) and these will be discussed at the end of this chapter. In qualitative research, literature is often used as verification of the findings of the semi-structured interviews (De Vos, 1998).

The main themes emerging from this study were: (i) positive perceptions of the intervention; (ii) feasibility of programme; (iii) improved communication; (iv) increased group cohesion; (v) perceptions of change in employee behaviour; (vi) perceived impacts on personal and family life (vii) inter-departmental roll-out of the intervention; (viii) proposals for change; and (vx) multiple benefits to the programme.

7.2.4. INTRODUCTION TO THE EMERGING THEMES

Employees participating in this phase of the study were each asked a set of questions, according to a set interview guide (see Annexure N), that helped elicit individual

perceptions, opinions and thoughts on the prevention programme. These eight participants elaborated extensively on their perceptions in relation to its feasibility and possibility for further implementation. Their emerging themes are discussed as it applies to each question posed to the KII participants.

7.2.4.1. Overall impressions of the programme

Participants in the KIIs were asked to give their perceptions of how they thought employees who participated in the study experienced the interventions. Participants were asked the following questions:

What was your overall impression of the programme, and to the best of your knowledge, was the programme well received by the participating employees?

Participant answers to these question resulted in the following two themes emerging:

Theme 1: DESPITE INITIAL RESISTANCE SESSIONS WERE CONSIDERED POSITIVE

Participants indicated that employees were initially reluctant to attend the sessions and suspicious of the prevention programme. Despite their initial trepidation, later feedback received by management suggested that employees gained from the programme offered and found the sessions enjoyable. Feedback to the management was therefore mostly in the affirmative with participants in the KIIs stating the following:

'I think overall it was received well. They were apprehensive in the beginning from both management and some at staff level. I think the organisation has been through so many processes that anything that is done is accepted with a bit of reservation in the beginning. I think word of mouth really assisted, the one group talking to another group. Overall I think the staff that were privy to have access to it, really enjoyed it, as did their managers, because their managers are reaping the rewards'.

'They were just hesitant in terms of what it was about initially, but after a while, they got there. It took about the first morning to get them on the page of the programme; in terms of what were you actually trying to say'.

One of the supervisors who also participated in the intervention, but was recruited for the KIIs in their capacity as a supervisor said the following:

' Like I said, in the beginning, for the first two hours we thought what is this all about, what is going to be the backlash.'

Initial resistance was however replaced with favourable attitudes towards the intervention. These are captured in the following quotes:

'The guys felt that someone actually listened'.

'It was positive feedback that I got'

'They wanted to be part of the programme'

'They enjoyed the intervention and they expressed that it is needed at all levels'

'There was no negativity about it. They were eager to go for the sessions'

'They gave me positive reports. I take it from there that by them speaking about it positively, that it had an impact. Specifically one employee that actually told me he was going to apply these things. So when I saw him again, He came back and told me that he is applying it and it is positive stuff. There is good things from it'.

Participants also indicated that initial hesitation on the part of employees was replaced with employees attending the sessions stating that they enjoyed the atmosphere and content of the programme to the point where they felt secure in sharing information about themselves:

'Just for the guys to start opening up about the issues that they have... in an environment that is non-threatening, you know'

One of the supervisors, who also participated in the intervention, said the following:

'It was relevant issues that we were speaking about and it was interactive.'

'There's actually been a positive move, so it was really well received by all of us. Guys came into the class and said, yes, but they must go here, they must go there, but when the facilitator started speaking about the subject matter and the presentation of the subject matter, that was completely forgotten. The other session we could not wait to get to. There was openness. Everybody was involved. So there was no moaning and groaning about it. Everybody really enjoyed it and it was really well received by my members and by myself as well.'

Theme 2: FEASIBILITY OF PROGRAMME IN RESPECT OF IMPACT ON SCHEDULE

Participants were asked to indicate whether they thought the programme had a negative impact on company operations since they were expected to be out of work for at least eight hours in total. Participants in the KIIs indicated that there were indeed challenges but that these challenges were dealt with through adequate planning on the part of management. For instance, one manager mentioned the following:

'I would say yes, but we managed. We isolated them. We took them completely out of the programme for that period, and we are covered for that period. So it's not that we – we had a non-operational area. We covered it with the others. We had a plan B to cover for them'.

'I think it definitely had an impact. In MF, especially it had an impact, but MF managed it brilliantly. They would rotate stations, so that other ones could stand in for them'.

7.2.4.2. Observed changes in the company

KII participants were asked the following question:

Which changes have you observed in your company since the roll-out of the prevention programme?

Four main themes could be drawn from participant responses to the above question:

Theme 3: IMPROVED COMMUNICATION

KIs reported that they had discussions with participating employees regarding the intervention programme. These managers were of the opinion that the programme enhanced communication among employees in their respective constituencies. One key informant stated the following:

'They have been chatting to others about it. There has been talk.'

A different manager reported that employees would talk among themselves around the information shared during the course of the workshop, after each day's sessions.

'They never mentioned it to me, but among themselves they discussed it.'

One of the supervisors who participated in the actual intervention said the following:

'I can tell you immediately after the class was done for the day, then we would get together and we would discuss things'

And,

'The session material was relevant to the point that participants were discussing it even after a period of time had passed'.

And,

'We sat down informally, myself and my members and they and we spoke around the issues and stuff like that and trying to also find where we can make certain changes. That was immediately after the class sessions. And also when we got back to work we sat down and the guys spoke to me and said that we needed to make a few changes. So we did discuss it immediately afterwards. Immediately after class was done and also a few weeks, months after that we still kept on going over the discussions. So it was excellent.'

An improvement in teamwork and manager-team relations was noted by several of the KII participants. This impact was due to improved colleague relationships:

'What has improved is my relationship with them, with the managers and with the staff itself. A couple of negative guys was around, but I could see change, yah.'

Theme 4: INCREASED GROUP COHESION

Interviews with the key informant participants also reported increased cohesion among participants who attended the interventions. For instance management mentioned the following:

'The feedback that I received from the team heads was that the groups that were exposed to, has greater team cohesion and greater sensitivity for one another and greater sense of team and belonging.'

"The guys felt that there's someone that's listening. And they could understand each other. They were actually helping each other... in the groups.'

'Our team is closer.'

'We are more rounded, we are more effective, and we are more cohesive with each other. We just work much better.'

Due to an improvement in team cohesion and spirit, supervisors/managers reported finding it easier to oversee their respective teams:

'We've got a tough job, but as long as we are together, we can overcome anything'.

Work performance was also positively affected:

'And also the work output is even better now, because we are working together, but not just as colleagues, but we know each other a little bit more, I wouldn't say as friends, because we

don't visit each other, but we've got each other's backs. So there is that harmony in the team'.

Theme 5: BEHAVIOUR CHANGE AND KNOWLEDGE GAIN

The intervention appeared to have had several positive impacts on employees and was seen to lead to certain changes in employee behaviour. Firstly, it appears the intervention has helped to address the issue of ownership of feelings and assertiveness. One of the KII participants mentioned the following:

'I've heard from the guys is they say it was a good thing, now they can pick up if there were stuff. If there is something not right, they can either address it, or just leave it like that. And the best way is to address it, because by leaving it, you are creating actually more problems, not only for yourself, but for him as well.'

Secondly, the intervention made participants aware of the dangers of alcohol and drug abuse, faulty coping mechanisms and alternatives to substance abuse to the point that some stopped drinking and smoking:

'I'm their supervisor. I'll speak about the three guys who stopped drinking. We, like I said, it already started scratching on them in the sessions, about the whole idea about, if you have to drink every day or very often and then it's equated to alcoholism. They didn't see it like that. We discussed it in class and we spoke about how much is too much really. A bottle or a glass and they then came to me, the one came to me and said to me: You know what: he feels that he wants to try going without wine and I asked him why, because in the session it was about self-improvement. If you are doing it for somebody else, it's not going to work, but if you're doing it for yourself and he understood that.

'Then myself and this member, I'm not gonna mention any names. My other two members at a function. We were at a function in Cape Town. And then the member that stopped drinking spoke to the two guys and I thought I'd also jump in. He was speaking about how much more quality time he is spending with his family. How he is actually seeing that the drinking itself, from a financial point of view has really ripped his pocket. He was speaking

about how more positive it is with him and his relationship with his children and especially with his wife. How they are going out now and how he can actually sit in front of a movie and drink a cup of coffee and still get the same enjoyment and pleasure that he get out of it when he thought alcohol was the whole idea.

'Other guys, it took the one another two weeks when he said he also wants to stop. He didn't stop immediately, he gradually slowed down and the other one just fell in. It took about four months for the three guys in my team to be totally rid of alcohol. The other guy again with the smoking habit, he also got involved, but he got involved about three to four months later. He had a cough that wouldn't go away for a month and the doctor said to him its smoking related. That wasn't the cherry on the top, that didn't stop him smoking. So I brought to remembrance about the conversation that we had here or about what we had in the classes, and we discussed about it and all those things and he then stopped for health purposes...'

Thirdly, it appears that participation in the intervention resulted in a change in attitude towards management. Two of the KIs mentioned the following:

'The one or two that I did speak to, I did notice a little bit of change in attitude towards management. I couldn't see it in their work, actually. I almost feel that is good if they can work with management.'

And,

'In MF in particular, there has been a change in attitude. Management there is an embracing and helping along, taking their folk that are having issues, taking them by the hand. So it's not being done in the darkness, like in the past where we have said in the past: you have to look after this guy, but nothing gets done.'

Most participants felt that alcohol abuse in the workplace was widespread that many workers were unaware of the dangers of alcohol abuse and of the 'safe' level of alcohol consumption, or so-called 'responsible drinking'. As managers, they were aware of the fact

that employees were abusing alcohol, both during working hours and when off duty. Drinking behaviour was seldom reported by employees, or co-workers and it seemed as if they were protecting each other. According to one of the participants people did not see regular high levels of alcohol use as dangerous, but rather thought that it was seen as a means to 'Chill a bit'. The TA sessions allowed for clarification of misguided information or incorrect perceptions of substance abuse. For instance one of the supervisors said that session allowed them to ask questions and voice their opinions about substance abuse and related issues:

'.....freedom in the class firstly to immediately voice our opinions and make statements and ask questions from certain issues around alcoholism, drug abuse and all of those things, HIV and that. So that was cool

Theme 6: PERCEIVED IMPACTS ON PERSONAL AND FAMILY LIFE

The intervention was seen to not only have an impact on the employees themselves, but was also reported to have a positive impact on an employee's personal and family life. One of the supervisors mentioned the following:

'I can't say for the other guys, but I can say about two guys that I know about. It had an impact on their personal family life, firstly, with their relationship with their wives and their children and then also their brothers and their sisters. So it really did impact further than the core group that had been in the classes. So it did go out and had a far reaching effect.'

'One guy was speaking about how more positive it is with him and his relationship with his children and especially with his wife. How they are going out now and how he can actually sit in front of a movie and drink a cup of coffee and still get the same enjoyment and pleasure that he get out of it when he thought alcohol was the whole idea'

In relation to improved family relationships, a second manager mentioned the following:

'...and another guy actually patched up his relationship with his estranged wife.'

One participant summarised the impacts on a personal and professional level through the following statement:

'The issues that is discussed is really relevant. Again, not just for our work environment, but for our personal lives as well. It makes you more rounded.'

7.2.4.3. Management perceptions on implementing the programme

All participants were asked the following: **'Would you consider running the programme again in your company?'**

One main theme emerged which related to the importance of departmental roll-out.

Theme 7: INTER-DEPARTMENTAL ROLLOUT OF THE INTERVENTION

Almost all participants maintained that future programmes should be rolled out to all their colleagues as well as other departments. It is thought that other departments within their company could benefit from the intervention programme as similar problems, such as substance abuse exist throughout the company at all levels.

'In our roll out we target x and y the two bigger directorates impacted by substance abuse issues.'

'We would run the programme as first roll-out within our safety and security, which consists of 5 divisions including MF and MP. And our secondary target will be in our Utility Services..'

'Even our call centre. The trauma there is different, because they interact with the public. Maybe with a traumatic situation. There is nothing that is currently there for them.'

"I think we all have our issues, in every department, you know. I cannot be specific, but it's good that you started with the MF department. I know they need it. I need it myself. We all need it".

Some participants felt this intervention should be rolled out to the whole organisation and not only selected divisions or departments:

'I would say that they have to incorporate whole of the organisation and not just for me to say a particular department, because I don't know what is happening at that department. I would say the whole organisation.'

Participants were appreciative of the fact that the programme encouraged management to deal with the source of problems and not only focus on the symptoms. It was further suggested that management and senior management should also participate in intervention programmes since it would also be beneficial to them. However, some of the participants voiced that if the programme were to be rolled out in the future, some line managers and senior management would not 'buy in'. Others disagreed and felt that management was 'embracing' the changes and dealing openly with all problems. However, it was also felt that the management of certain sub-divisions were more resistant to change and were a 'closed shop' and therefore perhaps more in need of such a programme, which will increase awareness. One KI for mentioned:

'The correspondence from MP regarding the implementation of the research was always evasive. I had to intervene countless times in getting them organized to get staff to the sessions'.

There were also comments on identifying high risk employees, particularly those that work shifts and those employees who are exposed to difficult work situations:

'Employees that are in the shift work cycle, employees that's dependent on one another in terms of team for life and employees that's daily exposed to substance abuse.'

7.2.4.4. Suggested changes to the programme

Participants in the KI interviews were also asked if they had any suggestions for improvement of the programme:

'Are there any changes to the prevention programme that you would like to suggest?'

Theme 8: PROPOSALS FOR CHANGE

Participants had several suggestions for improving the intervention programme, although there were also suggestions for improving the work environment. In relation to the actual programme, participants felt that they would have benefitted from individual discussions as an addition to the group process followed. This is evident in the following statement:

'When very sensitive issues came out, someone could have been extracted and maybe given the opportunity to take it further..... An immediate response could have been built into the programme.'

In elaborating on the above statement, the manager mentioned that some employees were really emotional about the situation in their lives, and these employees would have benefitted from individual follow-up on conclusion of the sessions. This statement was supported by a second manager who also suggested providing more one-on-one time for employees and said the following:

'If you have the group discussions, some of the guys don't really feel to discuss their problems, but if you have the one on one to see what is happening to a guy, why is he like that. Why is there a change in his behaviour, but one on one is actually a good thing. And one on one to express yourself.'

One participant also felt that it was important to have a comprehensive section on how to cope with domestic problems. He said the following:

'maybe the emphasis on the content, with some approach is to deal with the domestic situation that has to come in, because a lot of the time what plays itself out at work, gets taken home and what plays itself out at home, gets taken to work. As much as we are dealing with the work environment. As the employer, speaking from a management perspective, we must realise the holistic person comes from the community, with issues. So maybe.. I don't know how easy or difficult it is to incorporate that into the programme.'

Some of the suggestions for improvement focused on having more education on alcohol and drugs. Some of the managers felt that more time and discussion could have been gone into the modules that address substance abuse. This is evident in the following quotation:

'People do not understand what is acceptable and what is normal. The concept of being tolerant of something is so divergent. No one has the knowledge of what would be a standard drink- what is too much, what is too little, what is a moderate drinker, They do not have the ability to really engage with that. The education part was limited. They really had no idea of drinking and drugs and about being addicted or about having an abusive problem. None of that.'

Participants also made suggestions for improving the work environment which centered on debriefing programmes, mentoring, and the re-introduction of the 'mess fund' and sporting programmes for employees. In relation to trauma debriefing, some managers felt that the current lack of adequate debriefing services poses a problem for employees and can be seen as a contributing factor to substance abuse by employees:

'The one proposal that I would suggest, is that we get proper debriefing counsellors. I feel that debriefing counsellors are not adequately trained. That's number one.'

Participants suggested that permanent debriefing trauma counsellors should be available for all staff, as part of the roll-out of intervention programmes. As one interviewee stated:

'Sometimes very sensitive stuff comes out, especially after trauma was experienced, both physical and emotional'.

'in MF for example when the guys were ... how they deal with certain stresses when they come across dead children or where they maybe just could have had a session, particularly for those guys, there and decoded them in some way or another. An immediate response could have been built into the programme'.

7.2.4.5. Cost-effectiveness of programme

The following question guided the emerging theme: *'Are you of the opinion that such a prevention programme will be cost-effective to your company?'*

Theme 9: Multiple benefits of such a programme – healthier individual, improved service delivery, company duty to care, improved morale, increased productivity and reduced absenteeism:

Although the company did not incur any direct expenditure in relation to TA implementation, there were costs related to employee time off work to attend the sessions. KII participants were asked to give their opinion in respect of whether they thought the programme was cost-effective. There was an overwhelming positive response in relation to perceived cost-effectiveness of TA. Participants had the following to say:

'Even the least little improvement would be a return on our investment.'

'Let's say it cost too much money, but there was some benefits, I think we still push through with it. Because it's gonna take a long time to change mind-sets and this is what this programme is about, it's about the change of mind-sets. So it's not completely to be thrown out.'

There was also a sense amongst some participants that the adoption of a programme such as TA would demonstrate the caring side of the company:

'Above and beyond that, the caring side of the company will also come out. So it will give a whole new dynamic to the employee. Remember, the City is not just about the work that they can get out of you, but the City cares about our social lives, our private lives, as well as our work lives.'

One participant stated the importance of investing in a company's human resources since they are the ones that ultimately have to deliver a quality service. This is evident in the statement below:

'I would not look at the initial layout of cost to determine whether it's cost effective or not. I think what we need to look at the results that we hope to achieve and if you weigh those two things up, we cannot but make the investment, because our service is dependent on people. And if we do not look after our people, we cannot provide the service. So the focus on the staff member, the focus on the team, is what's critical.'

'Even if they have to spend lots of money on this programme. What the company gets back is invaluable. Your absenteeism goes down, your tardiness goes down, your work output goes up, your morale in the workplace goes up. It's a whole positive environment. So, again, a happy worker is a good worker. All of those things. Like, for instance, the municipality has a problem with absenteeism, taking sick, taking leave and all of those things. This issues that we discussed here, actually addresses those whole idea...'

Several participants felt it would be difficult for the company to calculate how much the company would actually be saving from implementing the intervention programme. In their view, the positive effects of TA will be seen in reduced absenteeism and less sick leave statistics, and/ or increased productivity. The following was said:

'You can't actually calculate the amount of money that the company will be saving, because of all of the other things that the company will be saving. They are more in work, they are less off sick. They are more productive. Just being in work, doesn't mean you're more productive when they're in work. They are positive, helpful. They are more considerate about their work environment; they are more considerate about the equipment. It saves the company more money on their cars, clothing and the public gets a better service, because of it, and the company gets a better name, because of a better service. So all of those things. You can't put a price to.'

'Also you cannot measure hopefully the cultural change and the impact of that cultural change. , and then we are not just talking about how much are we spending, but then it's going to lead to how much are we saving,.... so it's not about how much are we spending, it's how much we're gonna save at the end'

Interestingly, one participant stated that it could cost the company more money not to have the intervention in place:

'Prevention is ultimately better than the curing. The cost is so much higher as to leaving it as it is. Is definitely more cost effective to do the strategy, especially when combine it with other evidence based strategies or interventions.'

7.3. INTERPRETATION OF KEY INFORMANT INTERVIEWS

The objective of the study was to gain insight into how the local municipality perceived the Team Awareness intervention in respect of the operational requirements of the programme, more specifically perspectives on programme costs, time, and perceived effectiveness. Examining such influences in an organisational context is important, considering the fact that the implementation of evidence-based substance abuse programmes and prevention research in a workplace presents numerous practical challenges (Cook et al., 1996b; Hersch et al., 2000). Interviews with management and supervisors provide for the attainment of first-hand information from persons who are familiar with the company culture. In the context of this study, interviews with senior supervisors and management were very helpful, since they provided further evidence of the value of the prevention programme, specifically in relation to perceived behaviour changes, feasibility and cost-effectiveness.

One of the most important and positive themes emerging from the KIIs is management's perception that TA resulted in increased group cohesion. Increased cohesion reflects one of the main objectives of the TA prevention programme, and its emergence as an important theme in the qualitative segment of this study highlights improved changes in respect of group cohesion. There is increasing evidence to suggest that teamwork is associated with a decreased likelihood of encountering alcohol problems, or drinking climates within a workplace (Bennett et al., 2000). Group cohesion also has buffering effects for employees exposed to a co-worker's problematic use of substances (Bennett & Lehman, 1998) and is considered a protective factor against the development of substance-related problems.

Cohesion and team support is therefore important on a number of levels. For example, a study of shift workers in a motor manufacturing plant in the Eastern Cape, found that team support and the opportunity of sharing frustrations with colleagues who experience the same stressors was cited as a means of coping with shift work (Harker, 2006). This highlights the importance of group cohesion within organizations (Ross & Altmaier, 1994).

Additionally, changes in employee's knowledge and attitudes were also noted. Although this data cannot be generalised it is, however, evident that there have been behaviour changes as indicated in the interviews with managers. Again, one of the main outcomes of TA is improving knowledge, understanding and attitude towards substance abuse and substance-related HIV protective factors in the workplace (such as where to obtain help, improved attitudes toward company policy and understanding of the risks associated with substance abuse (Bennett et al., 2002). Participants mentioned that employees within their respective divisions, on exposure to TA, had become aware of certain risky behaviours they were engaging in and attempted to change these. This process of self-reflection, contemplation and subsequent change of behaviour is encouraging, since it reflects one of the key stages in Prochaska and DiClemente's theory of change model (McDonald et al., 2003). It should be noted that the intention of the programme was not to treat substance-related problems, but through this study it confirms that greater knowledge and improved skills can be important antecedents to effective prevention programmes designed for the workplace (Billings et al., 2008). It further suggests that individuals high in protective mechanisms such as increased understanding of substance abuse and substance-related HIV issues with the ability to make meaningful sense of such risks, are ultimately more protected against the risk of substance abuse, substance-related HIV and/or other stress related problems (Quick, Quick, & Nelson, 2000). It should also be said that manager support and encouragement, as seen in this study, also contributes to change and help-seeking behavior (Azzone et al., 2009).

Length of the programme and its impacts on work operations also emerged as a theme. This theme is of particular importance since concerns regarding the impact of TA on the operational requirements of the company were initially raised by members of the adaptation expert panel (see chapter 4, section 4.4). During the focus group discussions,

which formed part of the adaptation process, members of the expert panel highlighted some concern in relation to the length of time required to complete the research process and implement TA. Their concerns were addressed by understanding that interventionists and fieldworkers would adhere to strict time protocols. Emerging from the KIIs is verification that TA does indeed impact on operations; however this can be managed and planned prior to actual implementation as evidenced from the findings of this qualitative process. Through planning and formative consultations, a balance between the research needs and the operational imperatives of the company can be found (Hersch et al., 2000). Constructive engagement with company management on practical approaches and steps to minimise disruptions should always form part of initial consultations, to prevent barriers forming later in the implementation phase. Additionally, managers with firsthand experience on the challenges related to the implementation of such a programme could be used to champion its introduction.

Additionally, although the TA programme was viewed positively on conclusion of the programme, initial employee reluctance to participate must not be overlooked but be anticipated and planned for. Measures to address employee apprehension should also form part of initial engagements and ideally, allow for sufficient time to brief employees on the purpose of the programme, confidentiality issues as well as the research process. Ideally this could be facilitated by management and those involved in doing the research.

Also emerging from the KII process is the role of the work environment in contributing to employee stress and subsequent substance abuse risk behaviours. As evidenced in related scientific literature, work-related stress has been identified as a possible contributor to substance-related problems. For instance, from this study it emerged that shift work and exposure to trauma are major contributing factors to stress. This finding is supported by various literature sources (Cooper & Cartwright, 1997; Harker, 2006; Ross & Altmaier, 1994). For example, in a study of fire-fighters, traumatic stress has been found to predict psychiatric impairment beyond just the experience of Post-Traumatic Stress Disorder (PTSD) but to include other problems such as major depression, psycho-social dysfunction, and substance abuse (Wagner, Heinrichs, & Ehlert, 1998). Similarly studies have shown that occupations involving shift work (Ames & Grube, 1999) and safety-sensitive occupations

(Lehman, Farabee, Holcom, & Simpson, 1995) report higher employee substance abuse. For example, according to Lehman and colleagues (Lehman et al., 1995) workers in occupations considered risky were twice as likely as those not in risky occupations, to have used substances of abuse. These findings point to a need for preventive stress management (through trauma debriefing and better management of shift work) that are aimed at improving individual and organisational functioning (Quick et al., 2000). The need for such programmes emerged from the KIIs as a recommendation or proposal to the company participating in this study. This does not suggest that the organisation identifies high risk individuals and stream them into early intervention or treatment groups. Preferably, company investment into universal prevention programmes that target the whole division, or all employees involved in safety and security should be championed. This will certainly be helpful to high risk employees since it will encourage help-seeking behaviours and further referral, promote coping and stress management techniques for shift workers or those exposed to trauma on a frequent basis. In turn this will discourage possible stigmatisation, since the focus is not only substance abuse but embedded in a host of improved wellness topics (Cook & Schlenger, 2002; Deitz et al., 2005) available to the whole workforce.

During the interviews, KII participants were asked about their perceptions of whether or not such prevention programmes would be cost-effective. Interestingly, managers and supervisors highlighted the importance of addressing substance-related problems since the benefits are numerous for both the employer and the employee. According to the Collaborating for Health Initiative in the United Kingdom (Collaborating for Health, 2011), employers are aware of the importance of addressing employee health and wellness, as this is irrevocably linked to a number of benefits such as increased productivity and reduced absenteeism, as well as improved morale. Ultimately the return on strategic investment in employee health is high (Roberts & Grimes, 2011). Also emanating from the KIIs is the realisation that investment in a programme initially bears some costs, but that these are outweighed by the ultimate improvement of employee health, increased productivity and service delivery (Deitz et al., 2005).

Also arising from the KIIs were proposed changes to the programme. Although some of the proposed changes would result in additions to the current programme and therefore

compromise fidelity, they may be useful when considering modifying the prevention programme for a South African context. Such modification is possible since Team Awareness has already been modified to suit the unique aspects of restaurant workers (Bennett et al., in press). Modifying evidence-based prevention and treatment programmes to community specifications is important and is possible without diluting the evidence base or fidelity of core aspects of the intervention (Sloboda & Schildhaus, 2002) but follows a clear set of steps and should be done in collaboration with the programme developers. Participants advocated for the inclusion of one-on-one brief intervention sessions as part of the prevention programme. Brief interventions within the workplace have also been found to bring about change to harmful drinking practices (Anderson & Larimer, 2002). There were also proposals for interventions that would run parallel to the offered prevention programme. For instance, KIs made reference to comprehensive trauma debriefing and prevention programmes. These programmes would be useful considering the links between trauma, PTSD and substance abuse. There were also recommendations for programmes that focus on building family life and relationships. This is perhaps important for a variety of reasons but mainly because persons in safety and security professions such as the police services are more likely to be perpetrators of intimate femicide–suicide (Mathews et al., 2008; Violanti, 2007). Additionally, studies conducted by Madu and colleague in Limpopo advocates for programmes designed to give support to the family and spouses of police officers or persons in similar occupation groups with the view of equipping the family and employee with coping skills (Madu & Poodhun, 2006).

7.4. CHAPTER SUMMARY

In this chapter, the findings emerging from the data gathered by means of the key informant interviews were discussed, with reference to the nine themes that emerged from the process of data analysis. The key themes from this objective suggested that employees experienced the programme as positive. There were minimal impacts on the operational requirements of the company. Managers observed changes amongst employees in the form of increased group cohesion, improved knowledge and understanding of addiction as well as certain behaviour changes. Participants in the interview proposed the roll-out of the

intervention to other departments within the company and also advocated for the inclusion of programmes to the prevention programme. TA was also considered to be worthwhile since participants mentioned that substance abuse prevention may initially be costly to implement but beneficial in the long term as it reduces substance abuse amongst employees. The final chapter of this thesis discusses the findings of the baseline assessment; the clustered randomised control trial and the findings from the qualitative study. This final chapter also provides recommendations for future research, implications for practice, and a review of study limitations.

CHAPTER 8

STUDY LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

The limitations, conclusions and recommendations that are related to the clustered RCT will be discussed in this chapter. Therefore specific reference will be made to chapters five, six and seven of this thesis. The limitations and recommendations to chapters two and four were discussed at the end of each chapter.

8.1. STUDY LIMITATIONS

In addition to a cross-sectional and qualitative study design, this research study also used a clustered randomised control study to test the effectiveness of a universal level prevention programme. Although the use of methods such as random assignment of participants, utilising a control condition, follow-up assessment and a study having multiple outcomes strengthens the quality of the study (Bennett et al., 2004; Bless et al., 2006; Campbell et al., 2000), there were several limitations to this study that deserve mention.

Firstly, there were several methodological constraints to identifying a workplace at which to conduct the research study. Despite the anticipated benefits to participating in the study, several workplaces were reluctant to participate. The researcher's initial intention was to aim for more than one workplace but this did not materialise. Recruiting a workplace willing to participate in this research study became a long process and in the end, the workplace was not randomly selected as anticipated at study conception. The workplace that ultimately participated in this study was self-identified by a contact person employed within the EAP division at the participating municipality. Although attempts at recruiting additional workplaces continued, the researcher was unsuccessful. According to researchers who have previously engaged with workplaces, such reluctance is not uncommon. For instance Hersch and colleagues (Hersch et al., 2000) clearly state that employers are often reluctant to allow researchers to ask employees directly about their substance abuse, and employees are quite hesitant to reveal heavy use of drugs or alcohol, especially if there is some need for them to

be followed-up, which often happens in longitudinal studies such as this study (Holcom, Lehman, & Simpson, 1993). This was evident in one organisation (clothing and textile industry) approached by the researcher to participate. Stigmatisation towards persons with a substance abuse problem also plays a role and may contribute to problems in recruitment (Cook & Schlenger, 2002). In this study it was found that substance abuse was perceived as a self-inflicted problem and therefore not worthy of the organisation's time. This was evident in the researcher's engagements with a financial investment firm. Although not formally explained in this study, literature also suggests that reluctance to participating in research studies is related to a resistance to admit that employees abuse substances. This resistance is possibly informed by relaxed internal policies and regulations (McCann et al., 2011). Considering that literature sensitises researchers to difficulties in recruitment of workers for participation in research studies, this finding is of benefit for researchers hoping to further research in workplaces.

Moreover the sample used in this study was drawn from the Cape Metropole area and may not be representative of or generalisable to all employees within safety and security occupations. However, the settings under which the study was conducted are typical of safety and security workplaces as were the conditions under which the study took place. As such, the findings present useful insights into how to effectively introduce evidence-based prevention programmes, such as TA, into workplaces categorised as safety-sensitive workplaces.

Additionally, this study made use of self-report questionnaires. Although recent research indicates that self-report surveys are equally as reliable as biological markers in assessing for alcohol and drug use (Bennett et al., 2004; Del Boca & Darkes, 2002), it is the view of the researcher that the study may have benefitted from the inclusion of biological markers. Support for this assertion can be found in the extent of underreporting noticed in this study, particularly in relation to the use of drugs. In addition, a study conducted in 2003 found that the harder the drug, the less likely participants would be honest about their drug use possibly due to the stigma associated with the use of these drugs or fear of legal repercussions (Pluddemann & Parry, 2003). Participants in this sample were reluctant to answer questions on behaviours that are considered undesirable perhaps because of a

distrust of the research process. The perceptions of participants were that the researches would expose them to management, and employees were completely unfamiliar with research processes. This was found to be more common amongst MP participants. Similar limitations were reported in studies conducted by Holcom and colleagues who add that such perceptions by employees do not emanate from the research team following incorrect research procedures but rather, a distrust of something that is considered new and also a distrust of a work system that is viewed with suspicion (Holcom et al., 1993). Contributing to a reluctance to self-disclose was the actual occupation (safety and security) the participants were employed in. Within this profession there is a requirement to uphold certain behaviours and conduct, and substance abuse behaviours are considered contrary to this. Similar limitations were also reported on the substance-related HIV self-report questions which is consistent with other studies where resistance to disclosing HIV risks have been reported (Torrone et al., 2010). It is clear that participants need to be assured of the confidentiality of the research process throughout the duration of the study process, but more particularly at the onset.

In addition, attrition in this study was also relatively high at both post-test and at three month follow-up. Although this is not unique to studies conducted in workplace settings, it does pose the following challenges (Bennett et al., 2003; Cook et al., 1996b): i) it reduces the numbers in the analysis which could have resulted in some statistical tests not reaching significance and ii) biases the findings to participants who were willing to continue the research project, and this can result in an under or over estimation of effects. Literature therefore advises researchers to use the estimates of effect sizes as approximations that one would have obtained if the study was not burdened by attrition (Kemmler, Hummer, Widschwendter, & Fleischhacker, 2005).

As reflected in the study objectives described in chapter 2 of this thesis, this study also aimed to collect aggregated absenteeism, workplace accidents and production (which reflects company outputs) data directly from the organisation. It was postulated that aggregated data will be collected 6 months prior to the intervention and 6 months after post-intervention data collection. At the time it was thought that such data would be obtained from company records should permission to collect secondary source data from

the company records be granted. This sub-objective was unattainable since the participating organisation did not have the capacity at the time to execute this function.

Furthermore, alcohol use was measured using single item measures and the CAGE instrument. The study would have benefitted from the use of other standardised instruments that measure severity of substance abuse by providing cut-off scores for hazardous or harmful substance use. Examples of such clinical screening tools are the Alcohol Use Disorders Identification Test (AUDIT) (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) or the The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) (WHO ASSIST Working Group, 2002).

Underreporting on problematic drug use in this study resulted in an inability to undertake any useful bivariate or multivariate analysis since a larger sample size of participants is needed to conduct such analysis.

In relation to substance-related HIV risk, the researcher found that participant responses to these questions were poor. This section of the study may have been burdened by the problem of respondent bias, since participants fabricated information on for instance, how many times they had sex in the past month. Additionally, the measure used to collect responses on substance-related HIV was not an established, reliable, or validated instrument though it has been used in at least one other context (Rawson et al., 2002). The use of more validated instruments to measure substance-related HIV is therefore recommended.

A further limitation to this study relates to allocation concealment, a universally recommended procedure for guarding the randomisation process so that the intervention to be allocated is not known (Forder, Gebski, & Keech, 2005). Allocation of workgroups to the control or intervention arm of this study was not concealed and this may have influenced the behaviour of the researcher staff. Additionally, the researcher was involved in the randomisation process and was aware of which groups were assigned to which

conditions. The use of an independent statistician to generate the allocation sequence independently from the researcher would have been a more viable option.

The research design employed in this study lends itself to certain biases such as test effects. The researcher attempted to manage this by lengthening the time at which participants returned for time three data collection.

Lastly, the initial intention was to conduct focus groups with senior management and analyse data qualitatively. However due to internal organisational processes and the fact that the research processes took a substantial amount of time away from normal business processes, the process could not be followed through as planned since it became increasingly difficult to recruit participants. As a result, only eight senior staff members participated in in-depth, semi-structured interviews. The findings from the sample of group participants used in Phase 8 of the study may therefore be too small and cannot be generalised to be the viewpoints of all of the senior management in the safety and security division of the local municipality.

8.2. RECOMMENDATIONS

This study, through the completion of the key objectives, has shown that introducing universal level substance abuse and substance-related HIV prevention programmes has real potential for reducing substance abuse among employees. The researcher puts forward the following recommendations for research, practice and policy:

8.2.1. IMPLICATIONS FOR PRACTICE

1. Significant effects were found on the main outcome variable. This suggests that ***prevention programmes in the workplace should be part of a larger effort to reduce problematic substance use.*** For instance, such programmes should be integrated within the entire workplace system and may require changes to

existing policy and unhealthy practices as well improved EAP services (Bennett et al., 2004; Roman, 1990).

2. In addition, this is the first attempt to adapt and replicate a workplace substance abuse prevention programme in South Africa. It is recommended that sufficient time be afforded to engaging participating companies on the potential impact of the research process and these need to be followed prior to actual implementation. It is also important to ensure that participating workplaces are aware of the programme prior to implementation. This suggests that ***marketing of the planned intervention and its potential benefits should occur well before actual implementation time.***
3. Considering initial employer resistance to participating in the study, some consideration should also be given to ***discussing return-on-investment of prevention programmes for the workplace as a motivator for participation.***
4. To help overcome employee resistance to participating in future research studies, ***it may help to embed substance abuse and substance-related prevention programmes and other programmes in a larger safety and health /well-being programme.*** Such programmes are more likely to attract a larger number of employees and prevent discriminatory attitudes and stigmatisation.
5. Exposure to trauma emerged as a possible contributor to problematic substance use. Responses from participants suggest that safety and security staff receive very little support in the line of professional trauma debriefing following exposure to traumatic incidents. There is ***a need for a standardised operational plan for trauma referrals.***
6. In relation to this particular worksite, it may be beneficial for the EAP department to address the concerns emanating from this study, particularly concerns related to confidentiality and quality of service. This could be facilitated through creating ***service quality checks for EAP professionals.***

8.2.2. IMPLICATIONS FOR RESEARCH

1. Firstly, since this work cannot be generalised beyond the context of this study, it is important ***to investigate the effectiveness of the workplace substance abuse and substance-related HIV prevention programme in sectors that fall outside the ambit of this study.*** Further investigation into the effectiveness of the intervention programme in several workplaces is recommended.
2. As indicated under the limitations sections, the study was plagued by relatively high levels of attrition. Bless and colleagues recommend that ***a project be designed in such a way that it is convenient for participants to participate until the end of the study*** (Bless et al., 2006), ***through allowing flexibility of employees attending session on their days off and offering worthwhile incentives for participation.***
3. Although no intervention effects were found on the variable sexual risk behaviours, baseline findings did report a high risk of employee exposure and subsequent increase in risk. This highlights the importance of ***future research efforts on TA factoring in substance-related HIV risks.***
4. Future studies should use ***more reliable measures such as validated substance-related HIV-risk scale for examining substance-related HIV risks in this study sample.*** Additionally, it may be useful to ***explore possible contextual factors that act as possible barriers to persons answering substance-related HIV questions,*** particularly for this population who are largely male.
5. This research study would also have benefitted from a ***mixed methods research design, such as*** the inclusion of a qualitative angle to further examine employee perceptions of team awareness and its contributions to changes in behaviour and attitudes. For instance, in-depth focus groups may have contributed to a deeper, more comprehensive understanding of the effect of TA on outcomes that may not have been measured through quantitative methods. A qualitative paradigm may also have provided insights to why there were no changes on certain variables where change was predicted. Mixed methods designs are particularly useful in facilitating the triangulation of data from multiple research methods,

thereby strengthening understanding around important issues (Carroll & Rothe, 2010; Castro, Kellison, Boyd, & Kopak, 2010).

6. Future studies should examine *longitudinally (beyond three months to include a one year, three year and five year follow-up time) to ascertain whether participants who incorporate these preventative factors are less likely to develop workplace problems and are more likely to seek treatment at an earlier stage* (Billings et al., 2008).
7. Future research that will examine the effectiveness of such an intervention will benefit from the inclusion of more *robust measures of alcohol consumption such as the AUDIT or WHO ASSIST*.
8. Although not emanating directly from this research study, further studies are needed to explore *interventions that are aimed at enhancing coping and resiliency of employees who are regularly exposed to traumatic incidents. Such interventions may assist in preventing the progression to a substance abuse problem*. It may also be worthwhile to conduct a systematic review on prevention programmes that assist persons in safety and security occupations to cope with traumatic events, since lack of coping skills is also associated with increased substance abuse.
9. This study was not able to conduct a cost-effectiveness analysis, since the ideal time for such evaluations would be on completion of an impact study. *Future research on the effectiveness of TA should include economic cost-effectiveness analysis as part of evaluating the effectiveness of the programme all round*.

9.3. CONCLUSION

To the researcher's knowledge, this is the first evaluation of an evidence-based substance abuse and substance-related HIV workplace prevention programme in South Africa. The research study followed a multi-phase approach guided by six overall study objectives:

1. To review the effectiveness of existing programmes to prevent substance abuse and substance-related HIV risks at the workplace.

2. To describe the extent of substance abuse and substance-related HIV risk behaviours among employees working in safety-sensitive jobs within two divisions of a safety and security department of a local municipality in the Western Cape.
3. To describe the effective adaptation of an evidence-based substance abuse and substance-related HIV risks prevention programme used in other countries for application in the workplace in South Africa.
4. To evaluate the effectiveness of the substance abuse and substance-related HIV risks prevention programme implemented among employees working in safety-sensitive jobs within two divisions of a safety and security department of a local municipality in the Western Cape.
5. To estimate summary measures of organizational absenteeism levels and overall work productivity and to compare at pre-intervention and post-intervention levels.
6. To explore and describe perceptions of company management regarding the operational aspects of the prevention programme.

All study objectives, with the exception of objective 5 (discussed under the limitations section of this chapter), was met.

In order to meet the objectives described, the research study was conducted in seven phases. To begin this study, an intervention was sought through a systematic review process and Team Awareness was identified as an intervention appropriate for implementation in South Africa. This phase was followed by an adaptation process, which saw the customisation of TA to the local South African context. Upon the completion of the adaptation or customisation process and following implementation, the intervention was evaluated at baseline and at two other time points, to determine the effectiveness of TA among employees in the two divisions of a safety and security directorate. To triangulate

the findings gleaned from the clustered RCT, the study included qualitative semi-structured interviews with senior members of staff to determine perceptions around programme feasibility and programme impacts on the organisation's operational requirements.

The results from this study confirm that workplace prevention programmes grounded in social and behavioural health theories are potentially effective in changing risky behaviours amongst employed persons. For instance, findings from this study point to a decrease in problematic drinking practices amongst employees in the intervention arm. In addition changes in knowledge on the in-house substance abuse policy and the likelihood of utilising the EAP programme were also noted. Although no significant changes on the variables related to drinking climate and group cohesion were noted in the clustered RCT evaluation study, results from the qualitative component signalled an improvement in group cohesion and changes in employee drinking behaviours in the predicted directions. Additionally, management appeared to be in support of TA, advocating its roll-out to the rest the organisation, and also provided their thoughts and proposals for change. These findings are welcomed considering the extent of problematic substance use reported in this study at baseline. For instance alcohol was found to be the primary substance of abuse in this study sample. Furthermore, the exposure to a climate favourable to drinking, job satisfaction and job risks emerged as a predictor for problematic alcohol use (days having more than five drinks). Despite attempts to adapt TA to address substance-related HIV, results could not be used to draw such inferences. This was largely as a result of the limitations associated with the use of self-report questionnaires, as discussed under the section dealing with limitations.

As outlined above, it is also important to take cognisance of the numerous challenges when implementing randomised control trials in real-world settings, as well as realise the methodological constraints to implementation in organisational settings. Despite these limitations, the study did show two important effects which substantiate the need for establishing such workplace prevention programmes. The practical implementation thereof is possible when appropriate consideration is given to all stakeholders, and participating parties are able to reach consensus on processes needed to balance the research process and the organisational requirements. What remains promising is the fact that senior

management expressed a need for the continuation of the programme and roll-out to all other divisions of the participating organisation.

REFERENCES

- Albertyn, C., & McCann, M. (1992). *Alcohol, Employment and fair labour practices* (1st Edition). Cape Town: Juta
- Alexander, D., Walker, L., Innes, G., & Irving, B. (1993). *Police stress at work*. London: Sage Publications.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (Revised 4th edition). Washington DC: APA.
- Ames, G., & Delaney, W. (1992). Minimization of workplace alcohol problems: the supervisor's role. *Alcoholism, Clinical and Experimental Research*, 16 ,2, 180-189.
- Ames, G., & Grube, J. (1999). Alcohol availability and workplace drinking: mixed method analyses. *Journal of Studies on Alcohol*, 60, 3, 383-393.
- Ames, G., Grube, J., & Moore, R. (1997). The relationship of drinking and hangovers to workplace problems: an empirical study. *Journal of Studies on Alcohol*, 58, 1, 37-47.
- Ames, G., Grube, J., & Moore, R. (2000). Social control and workplace drinking norms: a comparison of two organizational cultures. *Journal of Studies on Alcohol*, 61 ,2, 203-219.
- Anderson, B. K., & Larimer, M. E. (2002). Problem drinking and the workplace: an individualized approach to prevention. *Psychology of Addictive Behaviors : Journal of the Society of Psychologists in Addictive Behaviors*, 16,3, 243-251.
- Azzone, V., McCann, B., Levy Merrick, E., Hiatt, D., Hodgkin, D., & Horgan, C. (2009). Workplace stress, organisational factors an EAP utilisation. *Journal of Workplace Behavioural Health*, 24, 344-356.
- Babor, T., Higgins-Biddle, J., Saunders, J., & Monteiro, M. (2001). *Alcohol Use Disorders Identification Test (AUDIT) Guidelines for Use in Primary Care*. (2nd Edition ed.). Geneva: Department of Mental Health and Substance Dependence, World Health Organisation.
- Bacharach, S., Bamberger, P., & Doveh, E. (2008). Firefighters, critical incidents, and drinking to cope: the adequacy of unit-level performance resources as a source of vulnerability and protection. *The Journal of Applied Psychology*, 93, 1, 155-169.

- Bacharach, S., Bamberger, P., Sonnenstuhl, W., & Vashdi, D. (2008). Aging and drinking problems among mature adults: the moderating effects of positive alcohol expectancies and workforce disengagement. *Journal of Studies on Alcohol and Drugs*, 69, 1, 151-159.
- Baelden, D., Van Audenhove, L., & Vergnani, T. (2012). Using new technologies for stimulating interpersonal communication on HIV and AIDS. *Telematics and Informatics*, 29, 2, 166-176.
- Barbor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K., . . . Rossow, I. (2003). *Alcohol: No ordinary commodity research and public policy*. New York: Oxford University Press.
- Bennett, J., Aden, C., Broome, K., & Mitchell, K. (in press). Team resilience for young restaurant workers: Research-to-practice adaptation and assessment. *Journal of Occupational Health Psychology*.
- Bennett, J., Bartholomew, N., Reynolds, G., & Lehman, W. (2002). Team Awareness Training For Workplace Substance Abuse Prevention: Introduction & Facilitator Overview Retrieved September, 2009. From website www.ibr.tcu.edu.
- Bennett, J., & Beaudin, C. (2000). Collaboration for preventing substance abuse in the workplace: modeling research partnerships in prevention. *Journal of Healthcare Quality*, 22, 4, 24-30.
- Bennett, J., & Lehman, W. (1997). Employee views of organisational wellness and the EAP: Influence on substance use, drinking climates and policy attitudes. *Employee Assistance Quarterly*, 13, 1, 55-72.
- Bennett, J., & Lehman, W. (1998). Workplace drinking climate, stress, and problem indicators: Assessing the influence of teamwork (group cohesion). *Journal of Studies on Alcohol*, 59, 5, 608-618.
- Bennett, J., & Lehman, W. (1999a). Employee Exposure to Coworker Substance Use and Negative Consequences: The Moderating Effects of Work Group. *Journal of Health & Social Behavior*, 40, 3, 307-322.
- Bennett, J., & Lehman, W. (1999b). The relationship between problem co-workers and quality work practices: a case study of exposure to sexual harassment, substance abuse, violence and job stress. *Work & Stress*, 13, 4, 299-311.
- Bennett, J., & Lehman, W. (2001). Workplace substance abuse prevention and help seeking: comparing team-oriented and informational training. *Journal of Occupational Health Psychology*, 6, 3, 243-254.
- Bennett, J., & Lehman, W. (2003). *Workplace Substance Abuse Prevention: Beyond Drug Testing to Wellness*. Washington, DC: American Psychological Association.

- Bennett, J., Lehman, W., & Reynolds, G. (2000). Team awareness for workplace substance abuse prevention: the empirical and conceptual development of a training program. *Prevention Science, 1, 3, 157-172.*
- Bennett, J., Patterson, C., Reynolds, G., Wiitala, W., & Lehman, W. (2004). Team awareness, problem drinking, and drinking climate: workplace social health promotion in a policy context. *American Journal of Health Promotion, 19, 2, 103-113.*
- Billings, D. W., Cook, R. F., Hendrickson, A., & Dove, D. C. (2008). A web-based approach to managing stress and mood disorders in the workforce. *Journal of Occupational and Environmental Medicine, 50, 8, 960-968.*
- Bless, C., Higson-Smith, C., & Kagee, A. (2006). *Fundamentals of Social Research Methods: An African Perspective* (4th Edition ed.). Cape Town: Juta.
- Bradshaw, D., Groenewald, P., Laubscher, R., Nannan, N., Nojilana, B., Norman, R., . . . Johnson, L. (2003). Initial burden of disease estimates for South Africa, 2000. *South African medical journal = Suid-Afrikaanse tydskrif vir geneeskunde, 93(9), 682-688.*
- Bray, J., Galvin, D., & Cluff, L. (2011). Young Adults in the Workplace: A multisite Initiative of Substance Use Prevention Programs. Date accessed: November 2012. Retrieved from website <http://www.rti.org/rtipress>.
- Bray, R., Marsden, M., Rachal, J., & Peterson, M. (1990). Drug and alcohol use in the military workplace: findings from the 1988 worldwide survey. *NIDA research monograph, 100, 25-43.*
- Broome, K., & Bennett, J. B. (2011). Reducing heavy alcohol consumption in young restaurant workers. *Journal of Studies on Alcohol and Drugs, 72, 117-124.*
- Buchsbaum, D., Buchanan, R., Centor, R., Schnoll, S., & Lawton, M. (1991). Screening for alcohol abuse using CAGE scores and likelihood ratios. *Annals of Internal Medicine, 115, 774-777.*
- Buregyeya, E., Bazeyo, W., Moen, B., Michelo, C., & Fylkesnes, K. (2008). HIV risk behavior and work in Uganda: a cross-sectional study. *East African Journal of Public Health, 5, 1, 43-48.*
- Burnhams, N. H., Dada, S., & Myers, B. (2012). Social service offices as a point of entry into substance abuse treatment for poor South Africans. *Substance Abuse Treatment, Prevention, and Policy, 7, 22.*
- Burnhams, N. H., Myers, B., & Parry, C. (2009). To what extent do youth-focused prevention programmes reflect evidence-based practices? Findings from an audit of alcohol and other drug prevention programmes in Cape town, South Africa. *African Journal of Alcohol and Drug Studies, 8, 1, 2-8.*
- CALSAM, UNODC, & ROSA. (2010). Workplace project on drug use prevention. Project Learnings. Kolkatta, India.

- Campbell, M., Mollison, J., Steen, N., Grimshaw, J., & Eccles, M. (2000). Analysis of cluster randomised trials in primary care: a practical approach. *Family Practice, 17, 2*, 192-196.
- Carney, T., & Parry, C. (2008). *Harm Reduction in Southern Africa: Strategies used to address drug-related HIV (and Hepatitis C)*. Technical Report: Medical Research Council. Cape Town.
- Carroll, L. J., & Rothe, J. P. (2010). Levels of reconstruction as complementarity in mixed methods research: a social theory-based conceptual framework for integrating qualitative and quantitative research. *International Journal of Environmental Research in Public Health, 7, 9*, 3478-3488.
- Castro, F. G., Barrera, M., Jr., & Martinez, C. R., Jr. (2004). The cultural adaptation of prevention interventions: resolving tensions between fidelity and fit. *Prevention Science, 5, 1*, 41-45.
- Castro, F. G., Kellison, J. G., Boyd, S. J., & Kopak, A. (2010). A Methodology for Conducting Integrative Mixed Methods Research and Data Analyses. *Journal of Mixed Methods Research, 4, 4*, 342-360.
- Catalano, R. F., Hawkins, J. D., Krenz, C., Gillmore, M., Morrison, D., Wells, E., & Abbott, R. (1993). Using research to guide culturally appropriate drug abuse prevention. *Journal of Consulting and Clinical Psychology, 61, 5*, 804-811.
- Claassen, J. (1999). The benefits of the CAGE as a screening tool for alcoholism in a closed rural South African community. *South African Medical Journal, 89, 9*, 976-979.
- Clausen, T., Rossow, I., Naidoo, N., & Kowal, P. (2009). Diverse alcohol drinking patterns in 20 African countries. *Addiction, 104, 7*, 1147-1154.
- Coe, R. (2002). *It's the Effect Size, Stupid*. Paper presented at the Annual Conference of the British Educational Research Association, University of Exeter, England.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition ed.). Hillsdale, NJ: Erlbaum.
- Collaborating for Health. (2011). Review of workplace health initiatives: evidence of effectiveness. Retrieved 17 December 2012, from website <http://www.c3health.org/wp-content/uploads/2009/09/Workplace-health-initiatives-review-of-the-evidence-v-1-20111205.pdf>
- Cook, R., Back, A., & Trudeau, J. (1996a). Preventing alcohol use problems among blue collar workers: a field test of the Working People Program. *Substance Use and Misuse, 31, 3*, 255-275.

- Cook, R., Back, A. S., & Trudeau, J. (1996b). Substance Abuse Prevention in the workplace: Recent findings and an expanded conceptual model. *The Journal of Primary Prevention, 16, 3, 319-339.*
- Cook, R., Hersch, R., Back, A. S., & McPherson, T. L. (2004). The prevention of substance abuse among construction workers: a field test of a social-cognitive program. *Prevention Science, 25, 3, 337-357.*
- Cook, R., & Schlenger, W. (2002). Prevention of substance abuse in the workplace: Review of Research on the delivery of services. *The Journal of Primary Prevention, 23, 1, 115-141.*
- Cooper, C. L., & Cartwright, S. (1997). An intervention strategy for workplace stress. *Journal of Psychosomatic Research, 43, 1, 7-16.*
- Dada, S., Plüddemann, A., Parry, C., Bhana, A., Vawda, M., Pereira, T., . . . Weimann, R. (2012). Monitoring alcohol and drug abuse treatment admissions in South Africa: July 1996 - December 2011 (Phase 31). *SACENDU Research Brief, 15,1, 1-12.* Cape Town: South African Medical Research Council.
- De Vos, A. (Ed.). (1998). *Research at Grass Roots: A primer for the caring professions.* Pretoria: J.L van Schaik.
- Deitz, D., Cook, R., & Hersch, R. (2005). Workplace health promotion and utilization of health services: follow-up data findings. *The Journal of Behavioral Health Services & Research, 32, 3, 306-319.*
- Del Boca, F., & Darkes, J. (2002). The validity of self-reports of alcohol consumption: state of the science and challenges for research. *Addiction, 98, 1, 231-240.*
- Department of Health. (2010). *National Antenatal Sentinel HIV and Syphilis Prevalence Survey in South Africa: 2009.* National Department of Health: South Africa.
- Department of Health and the Medical Research Council of South Africa. (2003). *South African Demographic and Health Survey, 2003.* OrcMacro. 2007. Department of Health Pretoria.
- Doumas, D. M., & Hannah, E. (2008). Preventing high-risk drinking in youth in the workplace: a web-based normative feedback program. *Journal of Substance Abuse Treatment, 34, 3, 263-271.*
- Dunn, D. (2005). Substance abuse among nurses—Defining the issue. *Association of Registered Nurses Journal, 82, 4, 572-596.*
- Elley, R., Chondros, P., & Kerse, N. (2004). Randomised trials - cluster versus individual randomisation. *Australian Family Physician, 33, 9, 759-763.*

- Elliott, K., & Shelley, K. (2006). Effects of drugs and alcohol on behaviour, job performance and workplace safety. *Journal of Employment Counselling*, 43, 130-134.
- European Alcohol and Health Forum. (2011). Alcohol, Work and Productivity. *Scientific Opinion of the Science Group of the European Alcohol and Health Forum*.
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). (2010). Prevention and Evaluation Resources Kit (PERK): A manual for prevention professionals. Luxembourg.
- Everett, K. (2004). Smoking cessation interventions for pregnant women - Review. *Obstetrics and Gynaecology Forum*, 14, 1, 5-8.
- Field, A. (2009). *Discovering Statistics using SPSS*. London: SAGE Publications
- Focus Workplace. (2012). Employees that work in safety sensitive positions should be screened for medical conditions that could prevent them from safely performing their tasks. Accessed 1 December 2012, Retrieved from website <http://focusworkplace.com/ServicesCategories/SafetyAndPrevention/SafetySensitivePositions.html>
- Forder, P., Gebski, V., & Keech, A. (2005). Allocation concealment and blinding: when ignorance is bliss. *Medical Journal of Australia*, 182, 2, 87-89.
- Foster, W. H., & Vaughan, R. D. (2005). Absenteeism and business costs: does substance abuse matter? *Journal of Substance Abuse Treatment*, 28, 1, 27-33.
- Foxcroft, D. R., Ireland, D., Lister-Sharp, D. J., Lowe, G., & Breen, R. (2003). Longer-term primary prevention for alcohol misuse in young people: a systematic review. *Addiction*, 98, 4, 397-411.
- Garcia, F. (1996). The determinants of substance abuse in the workplace. *The Social Science Journal*, 33, 1, 55-68.
- Geldenhuys, C. (2003). *Sleep Smart: Get a Life*. South Africa: Rollerbird Press.
- Graham, J. W. (2009). Missing data analysis: making it work in the real world. [Review]. *Annual Review of Psychology*, 60, 549-576.
- Harker, N. (2006). *Occupational stress and coping among shift workers at a motor manufacturing plant*. Masters, Nelson Mandela Metropolitan University, Port Elizabeth.
- Hawkins, J. D., Catalano, R. F., & Arthur, M. W. (2002). Promoting science-based prevention in communities. *Addictive Behaviors*, 27, 6, 951-976.

- Heirich, M., & Sieck, C. J. (2000). Worksite cardiovascular wellness programs as a route to substance abuse prevention. *Journal of Occupational and Environmental Medicine*, 42, 1, 47-56.
- Hennessy, K., Finkbiner, R., & Hill, G. (2006). The National Registry of Evidence-Based Programs and Practices. *International Journal of Mental Health*, 35, 2, 21-34.
- Herman, A. A., Stein, D. J., Seedat, S., Heeringa, S. G., Moomal, H., & Williams, D. R. (2009). The South African Stress and Health (SASH) study: 12-month and lifetime prevalence of common mental disorders. *South African Medical Journal*, 99, 5 Pt 2, 339-344.
- Hersch, R. K., Cook, R. F., Deitz, D. K., & Trudeau, J. V. (2000). Methodological issues in workplace substance abuse prevention research. *The Journal of Behavioral Health Services & Research*, 27, 2, 144-151.
- Holcom, M., Lehman, W., & Simpson, D. (1993). Employee accidents: influences of personal characteristics, job characteristics, and substance use in jobs differing in accident potential. *Journal of Safety Research*, 24, 205-221.
- International Labour Office (ILO). (2003). Alcohol and Drug Problems at Work: The Shift to Prevention. Geneva: International Labour Office.
- International Labour Organisation (ILO). (1996). Management of alcohol - and drug - related issues in the workplace: An ILO code of practice. Geneva.
- Javidi, H., & Yadollahie, M. (2012). Post-traumatic Stress Disorder. *International Journal of Occupational and Environmental Medicine*, 3, 1, 2-9.
- Kalichman, S. C., Simbayi, L., Jooste, S., Vermaak, R., & Cain, D. (2008). Sensation seeking and alcohol use predict HIV transmission risks: prospective study of sexually transmitted infection clinic patients, Cape Town, South Africa. *Addictive Behaviors*, 33, 12, 1630-1633.
- Kemmler, G., Hummer, M., Widschwendter, C., & Fleischhacker, W. (2005). Dropout rates in placebo-controlled and active-control clinical trials of antipsychotic drugs: A meta-analysis. *Archives of General Psychiatry*, 62, 12, 1305-1312.
- Kessler, R. C., Barber, C., Beck, A., Berglund, P., Cleary, P. D., McKenas, D., . . . Wang, P. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). *Journal of Occupational and Environmental Medicine*, 45, 2, 156-174.
- Kew, G. (1992). A descriptive study of alcohol consumption patterns on a South African gold mine. *Urban Health Newsletter*, 21, 39-42.
- Kiene, S. M., Barta, W. D., Tennen, H., & Armeli, S. (2009). Alcohol, helping young adults to have unprotected sex with casual partners: findings from a daily diary study of alcohol use and sexual behavior. *The Journal of Adolescents*, 44, 1, 73-80.

- Kiene, S. M., Simbayi, L. C., Abrams, A., Cloete, A., Tennen, H., & Fisher, J. D. (2008). High rates of unprotected sex occurring among HIV-positive individuals in a daily diary study in South Africa: the role of alcohol use. *Journal of Acquired Immune Deficiency Syndromes*, *49*, 2, 219-226.
- Kumpfer, K. L., Alvarado, R., & Whiteside, H. O. (2003). Family-based interventions for substance use and misuse prevention. *Substance Use & Misuse*, *38*, 11-13, 1759-1787.
- Lance Coleman, C. (2007). Health beliefs and high-risk sexual behaviors among HIV-infected African American men. *Applied Nursing Research*, *20*, 3, 110-115.
- Leerlooijer, J. N., Ruiter, R. A., Reinders, J., Darwisyah, W., Kok, G., & Bartholomew, L. K. (2011). The World Starts With Me: using intervention mapping for the systematic adaptation and transfer of school-based sexuality education from Uganda to Indonesia. *Translating Behavioural Medicine*, *1*, 2, 331-340.
- Leff, S. S., Hoffman, J. A., & Gullan, R. L. (2009). Intervention Integrity: New Paradigms and Applications. *School Mental Health*, *1*, 3, 103-106.
- Lehman, W., & Bennett, J. (2002a). Job risk and employee substance use: the influence of personal background and work environment factors. *The American Journal of Drug and Alcohol Abuse*, *28*, 2, 263-286.
- Lehman, W., Bennett, J., & Reynolds, G. (2000). *TCU Workplace measures*. Institute of Behavioral Research. Texas Christian University. Texas.
- Lehman, W., Farabee, D., Holcom, M., & Simpson, D. (1995). Prediction of substance use in the workplace: Unique contributions of personal background and work environment variables. *Journal of Drug Issues*, *25*, 2, 253-274.
- Levy Merrick, E., Volpe-Vartanian, J., Horgan, C., & McCann, B. (2007). Revisiting Employee Assistance Programs and Substance Use Problems in the Workplace: Key Issues and a Research Agenda. *Psychiatric Services*, *58*, 1262-1264.
- Lim, S. S., Vos, T., Flaxman, A. D., Danaei, G., Shibuya, K., Adair-Rohani, H., . . . Memish, Z. A. (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*, *380*, 9859, 2224-2260.
- Lindquist, E. (1940). *Statistical Analysis in Educational Research*. Boston, USA: Houghton Mifflin.
- London, L. (2000). Alcohol consumption amongst South African farm workers: a challenge for post-apartheid health sector transformation. *Drug and Alcohol Dependence*, *59*, 2, 199-206.

- Loxley, W., Toumbourou, J., & Stockwell, T. (2003). *The prevention of substance use, risk and harm in Australia: a review of the evidence*. The National Drug Research Institute and the Centre of Adolescent Health. Australia
- Madu, S., & Poodhun, S. (2006). Stress Symptoms and Substance Use Among Police Officials in the Central Region of Limpopo Province, South Africa. *Journal of Social Science* 12, 3, 213-224.
- Mahajan, A. P., Colvin, M., Rudatsikira, J. B., & Ettl, D. (2007). An overview of HIV/AIDS workplace policies and programmes in southern Africa. [Review]. *AIDS*, 21, Suppl 3, 31-39.
- Malyutina, S., Bobak, M., Kurilovitch, S., Gafarov, V., Simonova, G., Nikitin, Y., & Marmot, M. (2002). Relation between heavy and binge drinking and all-cause and cardiovascular mortality in Novosibirsk, Russia: a prospective cohort study. *Lancet*, 360, 9344, 1448-1454.
- Mangione, T. W., Howland, J., Amick, B., Cote, J., Lee, M., Bell, N., & Levine, S. (1999). Employee drinking practices and work performance. *Journal of Studies on Alcohol*, 60, 2, 261-270.
- Martinko, M. J., Gundlach, M. J., & Douglas, S. C. (2002). Toward an integrative theory of counterproductive workplace behavior: A causal reasoning perspective. *International Journal of Selection and Assessment*, 10, 1-2, 36-50.
- Matano, R. A., Koopman, C., Wanat, S. F., Winzelberg, A. J., Whitsell, S. D., Westrup, D., . . . Taylor, C. B. (2007). A pilot study of an interactive web site in the workplace for reducing alcohol consumption. *Journal of Substance Abuse Treatment*, 32, 1, 71-80.
- Mathews, S., Abrahams, N., Jewkes, R., Martin, L., Lombard, C., & Vetten, L. (2008). Intimate femicide-suicide in South Africa: a cross-sectional study. *Bulletin of the World Health Organisation*, 86, 552-558.
- McCann, M., Harker Burnhams, N., Albertyn, C., & Bhoola, U. (2011). *Alcohol, Drugs and Employment* (2nd Edition ed.). Cape Town: Juta.
- McDonald, J., Roche, A., Durbridge, M., & Skinner, N. (2003). *Peer Education: From Evidence to Practice*. Adelaide: Snap Printing.
- McFarlin, S. K., & Fals-Stewart, W. (2002). Workplace absenteeism and alcohol use: a sequential analysis. *Psychology of Addictive Behaviors*, 16, 1, 17-21.
- McKleroy, V. S., Galbraith, J. S., Cummings, B., Jones, P., Harshbarger, C., Collins, C., . . . Carey, J. W. (2006). Adapting evidence-based behavioral interventions for new settings and target populations. *AIDS Education*, 18, 4 Suppl A, 59-73.

- Meneses, R. (2011). *Drugs, Lies and Red Tape* Paper presented at the Department of Labour - KwazuluNatal, South Africa. Date Accessed November 2012. From website, www.kwazulunatal.gov.za
- Mentor Foundation (UK). (2002). *'Lessons Learned In Drug Abuse Prevention: A Global Review*. The Mentor Foundation on behalf of the UNDCP with the financial support of the UK Government. London.
- Merrick, E., Volpe-Vartanian, J., Horgan, C., & McCann, B. (2007). Alcohol & drug abuse: Revisiting employee assistance programs and substance use problems in the workplace: key issues and a research agenda. *Psychiatric Services, 58*, 10, 1262-1264.
- Moradi, M., Hidarnia, A., Reza, M., Mehdi, J., & Gholamreza, B. (2009). Assessment of the effects of processes of change on resistance skills against substance abuse among petrochemical workers in Assaluyeh plant in Iran. *European Journal of Scientific Research, 28*, 4, 502-513.
- Morojele, N. K., Kachieng'a, M. A., Mokoko, E., Nkoko, M. A., Parry, C. D., Nkowane, A. M, . . . Saxena, S. (2006). Alcohol use and sexual behaviour among risky drinkers and bar and shebeen patrons in Gauteng province, South Africa. *Social Science & Medicine, 62*, 1, 217-227.
- Mrazek, P., & Haggerty, R. (1994). *Reducing risks for mental disorders: Frontiers for preventive intervention research*. National Academy Press. Washington DC.
- Mullen, B., & Cooper, C. (1994). The relationship between group cohesiveness and performance: An integration. *Psychological bulletin, 115*, 210-227.
- Murray, D. (1998). *Design and analysis of group-randomized trials*. New York: Oxford University Press.
- Myers, B., Burnhams, N., Kader, R., & Fakier, N. (2008). Key findings from a review of evidence based interventions for the prevention and treatment of substance use disorders. South African Medical Research Council: Cape Town, South Africa
- Myers, B., Harker Burnhams, N., & Fakier, N. (2010). Monitoring and Evaluation of Substance Abuse Services in South Africa: Implications for Policy and Practice. *International Journal of Mental Health and Addiction, 8*, 4, 557-565.
- Norstrom, T., & Moan, I. S. (2009). Per capita alcohol consumption and sickness absence in Norway. *European Journal of Public Health, 19*, 4, 383-388.
- Papas, R. K., Sidle, J. E., Martino, S., Baliddawa, J. B., Songole, R., Omolo, O. E., . . . Maisto, S. A. (2010). Systematic cultural adaptation of cognitive-behavioral therapy to reduce alcohol use among HIV-infected outpatients in western Kenya. *AIDS and Behavior, 14*, 3, 669-678.

- Parker, L., Maman, S., Pettifor, A., Chalachala, J. L., Edmonds, A., Golin, C. E., . . . Behets, F. (2012). Adaptation of a U.S. evidence-based Positive Prevention intervention for youth living with HIV/AIDS in Kinshasa, Democratic Republic of the Congo. *Evaluation and Program Planning*, 36, 1, 124-135.
- Parry, C., Carney, T., Petersen, P., Dewing, S., & Needle, R. (2009). HIV-risk behavior among injecting or non-injecting drug users in Cape Town, Pretoria, and Durban, South Africa. *Substance Use & Misuse*, 44, 6, 886-904.
- Parry, C., Patra, J., & Rehm, J. (2011). Alcohol consumption and non-communicable diseases: epidemiology and policy implications *Addiction*, 106, 1718-1724.
- Parry, C., & Pithey, A. (2006). Risk behaviour and HIV among drug using populations in South Africa. *Journal of Drug and Alcohol Studies*, 5, 2, 140-157.
- Parry, C., Pluddemann, A., Steyn, K., Bradshaw, D., & Laubscher, N. (2005). Alcohol use in South Africa: Findings from the first demographic and health survey (1998). *Journal of Studies on Alcohol and Drugs*, 66, 1, 91-98.
- Parry, C., Pluddemann, A., Steyn, K., Bradshaw, D., Norman, R., & Laubscher, R. (2005). Alcohol use in South Africa: Findings from the first Demographic and Health Survey (1998). *Journal of Studies on Alcohol*, 66, 1, 91-97.
- Parry, C., Rehm, J., & Morojele, N. (2010). Is there a causal relationship between alcohol and HIV? Implications for policy, practice and future research. *African Journal of Drug and Alcohol Studies*, 5, 2, 140-157.
- Pick, W., Naidoo, S., Ajani, A., Onwukwe, V., Hansia, R., & Bielu, O. (2003). Safety in Mines Research Advisory Committee Project Summary: Health 712. Johannesburg: University of the Witwatersrand, School of Public Health.
- Pidd, K., & Roche, A. (2009). *Prevention of alcohol-related harm in the workplace*. Prevention Research Quarterly, (DrugInfo Clearinghouse). Australia.
- Pilette, P. C. (2005). Presenteeism in nursing: a clear and present danger to productivity. *Journal of Nursing Administration*, 35, 6, 300-303.
- Pithey, A., & Parry, C. (2009). Descriptive systematic review of Sub-Saharan African studies on the association between alcohol use and HIV infection. *Journal of Social Aspects of HIV/AIDS Research Alliance*, 6, 4, 155-169.
- Pluddemann, A., Myers, B., & Parry, C. (2008). Surge in treatment admissions related to methamphetamine use in Cape Town, South Africa: Implications for public health. *Drug and Alcohol Review*, 27, 185-189.
- Pluddemann, A., & Parry, C. (2003). A Short Report: self-reported drug use vs. urinalysis in a sample of arrestees in South Africa. *Drugs: Education, Prevention and Policy*, 10, 4, 379-383.

- Pohorecky, L. A. (1991). Stress and alcohol interaction: an update of human research. *Alcoholism, Clinical and Experimental Research*, 15, 3, 438-459.
- Puffer, S., Torgerson, D., & Watson, J. (2005). Cluster randomized control trials. *Journal of Evaluation in Clinical Practice*, 11, 5, 479-483.
- Quick, J., Quick, J., & Nelson, D. (2000). *The theory of preventive stress management in organisations*. United Kingdom: Oxford University Press.
- Ramchand, R., Pomeroy, A., & Arkes, J. (2009). *The effects of substance use on workplace injuries*. RAND Center for health and safety in the workplace RAND, Pittsburgh.
- Raudenbush, S., & Bryk, A. (2002). *Hierarchical linear models: Applications and data analysis methods* (Second Edition ed.). Thousand Oaks, California: Sage.
- Rawson, R. A., Washton, A., Domier, C. P., & Reiber, C. (2002). Drugs and sexual effects: role of drug type and gender. *Journal of Substance Abuse Treatment*, 22, 2, 103-108.
- Reynolds, G. S., & Lehman, W. E. K. (2003). Levels of substance use and willingness to use the Employee Assistance Program. *The Journal of Behavioral Health Services & Research*, 30, 2, 238-248.
- Richmond, R., Kehoe, L., Heather, N., & Wodak, A. (2000). Evaluation of a workplace brief intervention for excessive alcohol consumption: the workscreen project. *Preventive Medicine*, 30, 1, 51-63.
- Roberts, G., & Grimes, K. (2011). *Return on Investment: Mental Health Promotion and Mental Illness Prevention*. Canadian Policy Network at the University of Western Ontario. Canadian Institute for Health Information Canada.
- Roerecke, M., Obot, I., Patra, J., & Rehm, J. (2008). Volume of alcohol consumption, patterns of drinking and burden of disease in Sub-Saharan Africa, 2002. *African Journal of Alcohol and Drug Studies*, 7, 1, 1-15.
- Roman, P. (1990). *Strategic considerations in designing interventions to deal with alcohol problems in the workplace*. Westport: CT: Qourum Books.
- Roman, P., & Blum, T. C. (2002). The workplace and alcohol problem prevention. *Alcohol Research & Health*, 26, 1, 49-57.
- Ronelle, S. (1996). Alcohol and drug use in the workplace - implications for the amended Labour Relations Act - Review. *Occupational Health SA*(July/August Issue).
- Rosen, S., Vincent, J., MacLeod, W., Fox, M., Thea, D., & Simon, J. (2004). The cost of HIV/AIDS to businesses in southern Africa. *AIDS*, 18, 317-324.

- Rosh, L., Offermann, L. R., & Van Diest, R. (2012). Too close for comfort? Distinguishing between team intimacy and team cohesion. *Human Resource Management Review*, 22, 2, 116-127.
- Ross, R., & Altmaier, E. (1994). *Intervention in occupational stress*. London: Sage Publishers.
- Rossi, P., Lipsey, M., & Freeman, H. (2004). *Evaluation: A Systematic Approach* (7th ed.). New York: Sage
- Sadava, S., & Pak, A. (1993). Stress-related problem drinking and alcohol problems: A longitudinal study and extension of Marlatt's model. *Canadian Journal of Behavioral Science*, 25, 3, 446-464.
- Saleh-Onoya, D., Braxton, N. D., Sifunda, S., Reddy, P., Ruiter, R., van den Borne, B., . . . Wingood, G. M. (2008). SISTA South Africa: the adaptation of an efficacious HIV prevention trial conducted with African-American women for isiXhosa-speaking South African women. *Journal of Social Aspects of HIV/AIDS Research Alliance*, 5, 4, 186-191.
- Schulz, K., Altman, D., Moher, D., & Group, t. C. (2010). CONSORT 2010 Statement: updated guidelines for reporting parallel group randomised trials. *BMC Medicine*, 8, 1, 18-24.
- Shisana, O., Peltzer, K., Zungu-Dirwayi, N., & Louw, J. e. (2005). *The health of our educators: A focus on HIV/AIDS in South African public schools, 2004/05 survey*. HSRC Press. Cape Town.
- Shisana, O., Stoker, D., Simbayi, L. C., Orkin, M., Bezuidenhout, F., Jooste, S. E., . . . van Zyl, J. (2004). South African national household survey of HIV/AIDS prevalence, behavioural risks and mass media impact--detailed methodology and response rate results. *South African Medical Journal*, 94, 4, 283-288.
- Simbayi, L. C., Kalichman, S. C., Cain, D., Cherry, C., Jooste, S., & Mathiti, V. (2006). Alcohol and risks for HIV/AIDS among sexually transmitted infection clinic patients in Cape Town, South Africa. *Substance abuse*, 27, 4, 37-43.
- Simbayi, L. C., Kalichman, S. C., Jooste, S., Mathiti, V., Cain, D., & Cherry, C. (2004). Alcohol use and sexual risks for HIV infection among men and women receiving sexually transmitted infection clinic services in Cape Town, South Africa. *Journal of Studies on Alcohol*, 65, 4, 434-442.
- Sloboda, Z., & Bukoski, W. (Eds.). (2003). *Handbook of Drug Abuse Prevention Theory, Science and Prevention*. New York: Kluwer Academic/Plenum Publishers.
- Sloboda, Z., & Schildhaus, S. (2002). A discussion of the concept of technology transfer of research-based drug "abuse" prevention and treatment interventions. *Substance Use & Misuse*, 37, 8-10, 1079-1087.

- Snow, D., Swan, S., & Wilton, L. (2002). A workplace coping-skills Intervention to Prevent Alcohol Abuse. In J. B. Bennett & W. E. Lehman (Eds.), *Prevention Workplace Substance Abuse: Beyond Drug Testing to Wellness*. Washington DC: American Psychological Association.
- Spicer, R. S., & Miller, T. R. (2005). Impact of a workplace peer-focused substance abuse prevention and early intervention program. *Alcoholism, Clinical and Experimental Research*, 29, 4, 609-611.
- Stead, M., Stradling, R., MacNeil, M., MacKintosh, A. M., & Minty, S. (2007). Implementation evaluation of the Blueprint multi-component drug prevention programme: fidelity of school component delivery. *Drug and Alcohol Review*, 26, 6, 653-664.
- Steenkamp, W. (2008). *Teoriegebaseerde programmevaluering in die ontwikkeling en evaluering van 'n alkoholisbruikvoorkomingsprogram vir die werksplek*. PhD, University Of Stellenbosch: Cape Town.
- Stotts, A., DeLuane, K., Schmitz, J., & Grabowski, J. (2004). Impact of motivational intervention on mechanisms of change in low-income pregnant smokers. *Addictive Behaviors*, 29, 1649-1657.
- Thavorncharoensap, M., Teerawattananon, Y., Yothasamut, J., Lertpitakpong, C., Thitiboonsuwan, K., Neramitpitagkul, P., & Chaikledkaew, U. (2010). The economic costs of alcohol consumption in Thailand, 2006. *BMC Public Health*, 10, 323.
- Theobald, S. (2002). Gendered bodies: recruitment, management and occupational health in northern Thailand's electronics factories. *Women Health*, 35, 7-26.
- Torrone, E. A., Thomas, J. C., Maman, S., Pettifor, A. E., Kaufman, J. S., Sena, A. C., & Hightow-Weidman, L. B. (2010). Risk behavior disclosure during HIV test counseling. *AIDS Patient Care STDS*, 24, 9, 551-561.
- Trice, H. M., & Sonnenstuhl, W. J. (1990). On the construction of drinking norms in work organizations. *Journal of Studies on Alcohol*, 51, 3, 201-220.
- Tsarouk, T., Thompson, E. A., Herting, J. R., Walsh, E., & Randell, B. (2007). Culturally specific adaptation of a prevention intervention: an international collaborative research project. *Addictive behaviors*, 32, 8, 1565-1581.
- Tutty, L., Rothery, M., & Grinnell, R. (1996). *Qualitative research for social workers: phases, steps & tasks*. London: Allyn & Bacon.
- United Nations Office on Drugs and Crime (UNODC). (2005). *Program for drug abuse prevention in the workplace and the family*. UNODC. Vienna.
- United Nations Office on Drugs and Crime (UNODC). (2009). *Guide to implementing family skills training programmes for drug abuse prevention*. New York.

- United Nations Office on Drugs and Crime (UNODC) India Office. (2010). *Workplace Project on Amphetamine Type Stimulants (ATS) and drug use prevention Kolkata, India: Project Learnings*. India.
- United Nations Programme on HIV/AIDS (UNAIDS). (2010). *Global report unaids report on the global AIDS epidemic*. UNAIDS Programme: New York.
- Vahtera, J., Poikolainen, K., Kivimaki, M., Ala-Mursula, L., & Pentti, J. (2002). Alcohol intake and sickness absence: a curvilinear relation. *American Journal of Epidemiology*, *156*, 10, 969-976.
- Veniegas, R., Kao, U., & Rosales, R. (2009). Adapting HIV prevention evidence-based interventions in practice settings: an interview study. *Implementation Science*, *4*, 76-84.
- Violanti, J. (2007). Homicide-suicide in police families: aggression full circle. *International Journal of Emerging Mental Health*, *9*, 2, 97-104.
- Violanti, J. (2012). Dying from the Job: The mortality risk for police officers. *Problems, Issues and Challenges in Law Enforcement*. Retrieved 30 October 2012. From website <http://www.stevedavis.org>.
- Violanti, J., Marshall, J., & Howe, B. (1983). Police occupational demands, psychological distress and the coping function of alcohol. *Journal of Occupational Medicine*, *25*, 6, 455-458.
- Volpicelli, J. R. (1987). Uncontrollable events and alcohol drinking. *British Journal of Addiction*, *82*, 4, 381-392.
- Wagner, D., Heinrichs, M., & Ehler, U. (1998). Prevalence of symptoms of posttraumatic stress disorder in German professional firefighters. *The American Journal of Psychiatry*, *155*, 12, 1727-1732.
- Walters, S. T., & Woodall, W. G. (2003). Mailed feedback reduces consumption among moderate drinkers who are employed. *Prevention Science*, *4*, 4, 287-294.
- Webb, G., Shakeshaft, A., Sanson-Fisher, R., & Havard, A. (2009). A systematic review of work-place interventions for alcohol-related problems. *Addiction*, *104*, 3, 365-377.
- Wechsberg, W. M., Luseno, W., Riehm, K., Karg, R., Browne, F., & Parry, C. (2008). Substance use and sexual risk within the context of gender inequality in South Africa. *Substance Use & Misuse*, *43*, 8-9, 1186-1201.
- Wechsberg, W. M., Luseno, W. K., Karg, R. S., Young, S., Rodman, N., Myers, B., & Parry, C. D. (2008). Alcohol, cannabis, and methamphetamine use and other risk behaviours among Black and Coloured South African women: a small randomized trial in the Western Cape. *The International Journal on Drug Policy*, *19*, 2, 130-139.

- Wegner, L., Flisher, A. J., Caldwell, L. L., Vergnani, T., & Smith, E. A. (2008). Healthwise South Africa: cultural adaptation of a school-based risk prevention programme. *Health Education Research*, 23, 6, 1085-1096.
- WHO ASSIST Working Group. (2002). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): development, reliability and feasibility. *Addiction*, 97, 1183-1194.
- Wilkinson, P. (2000). City Profile: Cape Town. *Cities*, 17, 195-205.
- Williams, B. G., Taljaard, D., Campbell, C. M., Gouws, E., Ndhlovu, L., Van Dam, J., . . . Auvert, B. (2003). Changing patterns of knowledge, reported behaviour and sexually transmitted infections in a South African gold mining community. *AIDS*, 17, 14, 2099-2107.
- Wilson, D. (1999). Routine screening tests for alcoholism. *South African Medical Journal*, 89, 9, 949-951.
- Wingood, G. M., & DiClemente, R. J. (2008). The ADAPT-ITT model: a novel method of adapting evidence-based HIV Interventions. *Journal of Acquired Immune Deficiency Syndromes*, 47 Supplement 1, S40-46.
- World Health Organisation. (2011). Global status report on alcohol and health. Switzerland.
- World Health Organisation (WHO). (2002). Prevention of psychoactive substance use: A selected review of what works in the area of prevention. In WHO Press (Ed.). Geneva, Switzerland.
- World Health Organisation (WHO). (2010a). *ATLAS on substance use. Resources for the prevention and treatment of substance use disorders*. WHO Press, Geneva, Switzerland.
- World Health Organisation (WHO). (2010b). *Global strategy to reduce the harmful use of alcohol*, WHO Press. Geneva, Sitzerland.
- World Health Organisation (WHO). (2010c). Healthy Workplaces: a model for action: for employers, workers, policymakers and practitioners *WHO Healthy Workplace Framework and Model: Background and Supporting Literature and Practices*. Switzerland: World Health Organisation.
- Yegidis, B., & Weinbach, R. (2002). *Research Methods for Social Workers* (2nd Edition ed.). London: Allyn & Bacon.
- Zungu, L., & Setswe, K. (2007). An integrated approach to the prevention and promotion of health in the workplace: A review from international experience. *South African Family Practice*, 49, 6, 6-9.

ANNEXURE A:

DEFINITION OF TERMS

SUBSTANCE ABUSE: the term reflects both alcohol and drug abuse and refers to a maladaptive pattern of use of a substance that is not considered dependent. Substances associated with this term include alcohol, amphetamines, barbiturates, benzodiazepines, cocaine, methaqualone, and opioids. (American Psychiatric Association [DSM-IV-TR], 2000).

PROBLEMATIC SUBSTANCE USE: in the context of this research study, the researcher used the term problematic substance abuse to refer specifically two variables i) days having more than five drinks, and the CAGE variable.

SUBSTANCE-RELATED HIV: refers to the relationship between substance use and sexual behaviour. For instance adults who abuse alcohol and drugs are likely to engage in risky sexual practices such as casual sex partners, multiple partners and/or engaging in unprotected sex (Rawson, Washton, Domier, & Reiber, 2002).

EMPLOYEE ASSISTANCE PROGRAMMES/ EMPLOYEE WELLNESS PROGRAMMES EAP/EWP: Employee Assistance Programmes/ Employee Wellness programmes - is a behavioural health referral and counselling service that includes screening and initial counselling for generic psychosocial problems including drug and alcohol use (Levy Merrick, Volpe-Vartanian, Horgan, & McCann, 2007).

SUBSTANCE ABUSE POLICY: in South Africa a substance use policy represents the collective agreement between an employer and a trade union or employees (in the absence of a trade union) for the regulation of substance abuse in the workplace. Such a policy normally speaks to prevention, drug testing, and referrals for treatment (McCann, Harker Burnhams, Albertyn, & Bhoola, 2011).

INDIVIDUAL STRESS: stress can be defined as a state of tension involving negative emotional states for example, frustration and anxiety and certain physiological states (Schabracq, Winnubst, & Cooper, 1996).

GROUP/TEAM STRESS: in the context of this study, group stress refers to the degree of stress team members experience because of tension, frustration and heavy workloads (Lehman, Bennett, & Reynolds, 2000).

JOB STRESS: refers to the 'harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker' (Sauter et al., 1999).

GROUP COHESION: group cohesion generally encompasses three concepts: i) interpersonal attraction which can be defined as liking the team or workgroups, with a sense of "belongingness"; ii) commitment to the task, which refers to the ability to participate in team activities and; iii) group pride, which refers to a sense of pride in belonging to a group and believing that the work executed is central to the success of the organisation (Rosh, Offermann, & Van Diest, 2012).

DRINKING CLIMATE: refers to the social norms or occupational climate within a workgroup or organisation that supports drinking between co-workers or promotes the collective use of alcohol for social purposes (Bennett & Lehman, 1998).

ABSENTEEISM: refers to the practice of voluntary non-attendance at work without a valid reason.

PRESENTEEISM: has been defined as the act of attending work when one is not physically or mentally well and therefore unable to put in a 100% effort. This would include getting to work late, leaving early and doing less work than is expected (Kessler et al., 2003; Pilette, 2005; Thavorncharoensap et al., 2010).

WHITE - COLLAR WORKERS: refers to any person who performs professional, managerial, or administrative work, in contrast with a blue-collar worker, whose job requires manual labor.

PREVENTION: Broadly, prevention can be defined as a proactive process that creates and reinforces conditions that promote healthy behaviours and lifestyles (Atkinson, 2004).

With regard to substance use, prevention is most often defined as any activity designed to prevent or delay the onset of substance use and reduce its health and social consequences (World Health Organisation (WHO), 2002).

UNIVERSAL PREVENTION: Targets the general or whole population individuals and at-risk groups who have not yet started use (Mrazek & Haggerty, 1994).

ADAPTATION: the process of customising original programme content to suit the culture and resources of the new target organization or community.. Adaptation can include adding, deleting, or changing core components, altering the intensity, or making cultural or other changes required by local circumstances (Bennett, Aden, Broome, & Mitchell, in press).

FIDELITY: refers to the degree to which an intervention has been implemented as planned or as per the guidelines set out by the programme developer (Leff, Hoffman, & Gullan, 2009).

SAFETY-SENSITIVE JOBS: are defined as positions where the employee's responsibilities may impact on the health and safety of themselves, co-workers and/or the general public (Focus Workplace, 2012).

REFERENCES

- Bennett, J., Aden, C., Broome, K., & Mitchell, K. (in press). TEAM RESILIENCE FOR YOUNG RESTAURANT WORKERS: RESEARCH-TO-PRACTICE ADAPTATION AND ASSESSMENT. *Journal of Occupational Health Psychology*
- Bennett, J., & Lehman, W. (1998). Workplace drinking climate, stress, and problem indicators: assessing the influence of teamwork (group cohesion). [Research Support, U.S. Gov't, P.H.S.]. *Journal of studies on alcohol*, 59(5), 608-618.
- Focus Workplace. (2012). Employees that work in safety sensitive positions should be screened for medical conditions that could prevent them from safely performing their tasks. Retrieved 1 December 2012, from <http://focusworkplace.com/ServicesCategories/SafetyAndPrevention/SafetySensitivePositions.html>
- Kessler, R. C., Barber, C., Beck, A., Berglund, P., Cleary, P. D., McKeenas, D., . . . Wang, P. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). [Evaluation Studies Research Support, Non-U.S. Gov't]. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine*, 45(2), 156-174.
- Leff, S. S., Hoffman, J. A., & Gullan, R. L. (2009). Intervention Integrity: New Paradigms and Applications. *School mental health*, 1(3), 103-106. doi: 10.1007/s12310-009-9013-x
- Lehman, W., Bennett, J., & Reynolds, G. (2000). *TCU Workplace measures*. Institute of Behavioral Research. Texas Christian University. Texas.
- Levy Merrick, E., Volpe-Vartanian, J., Horgan, C., & McCann, B. (2007). Revisiting Employee Assistance Programs and Substance Use Problems in the Workplace: Key Issues and a Research Agenda *Psychiatric Services*, 58, 1262-1264.
- McCann, M., Harker Burnhams, N., Albertyn, C., & Bhoola, U. (2011). *Alcohol, Drugs and Employment* (2nd Edition ed.). Cape Town: Juta.
- Mrazek, P., & Haggerty, R. (1994). *Reducing risks for mental disorders: Frontiers for Preventive Intervention Research* National Academy Press. Washington DC.
- Pilette, P. C. (2005). Presenteeism in nursing: a clear and present danger to productivity. *J Nurs Adm*, 35(6), 300-303.
- Rawson, R. A., Washton, A., Domier, C. P., & Reiber, C. (2002). Drugs and sexual effects: role of drug type and gender. [Research Support, Non-U.S. Gov't Research Support, U.S. Gov't, P.H.S.]. *Journal of substance abuse treatment*, 22(2), 103-108.
- Rosh, L., Offermann, L. R., & Van Diest, R. (2012). Too close for comfort? Distinguishing between team intimacy and team cohesion. *Human Resource Management Review*, 22(2), 116-127. doi: <http://dx.doi.org/10.1016/j.hrmr.2011.11.004>

- Sauter, S., Lawrence Murphy, Michael Colligan, Naomi Swanson, Joseph Hurrell, Frederick Scharf, . . . Tisdale, J. (1999). *Stress at Work In N. I. f. O. S. a. H.* (NIOSH) (Ed.), (Vol. DHHS (NIOSH) Publication No. 99–101). USA: NIOSH.
- Schabracq, M., Winnubst, J., & Cooper, C. (1996). *Handbook of Work and Health Psychology*. Chichester: John Wiley & Sons Ltd.
- Thavorncharoensap, M., Teerawattananon, Y., Yothasamut, J., Lertpitakpong, C., Thitiboonsuwan, K., Neramitpitagkul, P., & Chaikledkaew, U. (2010). The economic costs of alcohol consumption in Thailand, 2006. [Research Support, Non-U.S. Gov't]. *BMC public health*, *10*, 323. doi: 10.1186/1471-2458-10-323

Annexure B: Team Awareness
Leaflet



TEAM AWARENESS IN THE CITY

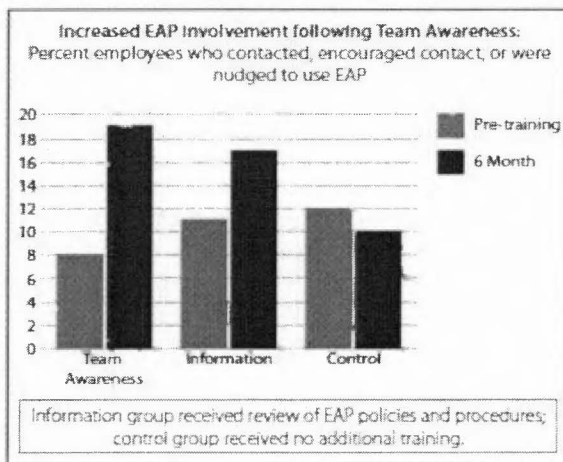
The South African Medical Research Council (MRC) and the Employee Wellness Programme (EWP) of the City of Cape Town are collaborating on a project called Team Awareness. This is a pilot study that will first be implemented within the Safety and Security directorate of the City of Cape Town.

WHAT IS TEAM AWARENESS?

Team awareness is a science-based workplace training programme that addresses behavioral risks amongst employees, their co-workers and indirectly, their families. This programme has been shown to increase employee help-seeking behaviour, supervisor responsiveness to troubled workers, enhancing the work climate, and reduce behaviour risks. Results are achieved by:

- Promoting social health
- Promoting increased communication between workers
- Improving knowledge and positive attitude towards workplace policies and the Employee Wellness Programme (EWP)
- Increase peer nudging and help seeking behaviour.

Figure 1: Evidence of Team Awareness Effectiveness



Usually no one person is responsible for the problem. More often, we are all responsible for the solution.

HOW TEAM AWARENESS WORKS

Team Awareness consists of preparatory focus groups and six training modules for employees:

- **Relevance:** Looking at community and work related risks and how the work team members can assist and support each other.
- **Team Ownership of Policy:** The risk and strengths game creates positive attitudes and team ownership of policy in the workplace.
- **Tolerance and reducing stigma:** Reduces supervisor and co-worker tolerance of risky behaviour.
- **Work Stress and Problem solving:** Identifies signs of poor coping mechanisms and promotes healthy alternatives of dealing with stress.
- **Workplace Communication skills:** Reviews listening ability and look at communication skills in the workplace
- **Encouragement:** The NUGDE Model develops peer referral skills and employee alliance with the Employee Wellness Programme. (EWP)

ETHICAL PRINCIPLES THAT WE ADHERE TO:

- Information given to the research team will be treated as **CONFIDENTIAL**.
- Employers/supervisors/other staff members will not have **ANY** access to this information.
- All information will be **ANONYMOUS**.
- Personal information will **NOT** be linked to any data collected.

Researchers/fieldworkers and interventionists have signed a confidentiality pledge, in accordance with the Declaration of Helsinki (2008), which prescribes the **ETHICAL PRINCIPLES** that researchers have to adhere to when conducting research involving human subjects. The study has been registered with the Human Sciences Ethics Board at the University of Cape Town (REC 488/2008).

Participation is voluntary, but we will appreciate your participation, as this will give us information to enable us to implement interventions such as team awareness in workplaces.

There are **NO RISKS** involved in this study, except that answering some questions may make you feel uncomfortable. Any questions you may have regarding this research will be answered by the fieldworkers. For any additional information, please contact the Research Field Manager, Ms Elmarie Nel, telephone number 0834949311.

If you have any questions or concerns regarding the research, please feel free to contact the Principal Investigator, Ms Nadine Burnhams on 021 938 0326 or at 083 641 4543.

Thank you for your willingness to participate.

WHY PARTICIPATE

You can help the MRC to find a programme that can help people to help themselves and their fellow workers. We are all part of a team, or a family or a group or a community, and we know that all people can have difficult times. You're confidential participation in this process will help the MRC understand how you think and feel. It will also make a valuable contribution towards finding a solution that can make a difference to many people's lives.

VERY IMPORTANT

- All information will be kept private and confidential
- All information to be collected anonymously
- No access to confidential information will be given
- No personal information will be linked to data
- All will sign confidentiality pledge
- No employee of the City of Cape Town will have access to the information

P: 021 938 0326 • F: 021 938 0342
E: nadine.harker.burnhams@mrc.ac.za
www.mrc.ac.za



SOUTH AFRICAN
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COUNCIL

ANNEXURE C CONSENT TO PARTICIPATE IN RESEARCH

You are asked to participate in a research study conducted by Nadine Harker Burnhams from the Alcohol and Drug Research Unit of the Medical Research Council in my capacity as a doctoral student at the University of Cape Town. Please read the information below and ask questions about anything you do not understand, before deciding whether to participate.

You have been selected to participate in this study because (Name of company) has been selected for participation and agreed to take part in this research study. As an employee at (Name of company) you are eligible for participation and in addition to this you also meet the inclusion criteria for the study.

Purpose of the Study

The purpose of this research study is to test the effectiveness of an evidence-based workplace substance abuse and substance-related HIV prevention programme within both the service and manufacturing industries.

Procedures

If you volunteer to participate in this study, you will be asked:

- To complete 3 questionnaires over a time period of 8 months.
- We will ask you to answer a set of questions about your work, alcohol and other drug use, sexual activity, and other behaviours that will take about 30 minutes of your time. You may choose to omit any questions you would prefer not to answer.
- After you have completed your first questionnaire, you will be assigned to a group that will receive some form of intervention. You will not be asked to talk about anything that is personal in these groups but we do ask that you participate in all the discussions. These groups will take place once a week over 10 weeks, and will not be longer than one hour.
- To attend all group sessions.
- Group sessions will be audio-taped for quality assurance purposes.
- To complete your 2nd questionnaire, once all the group sessions have been completed.
- To complete your 3rd questionnaire 6 months after the 2nd questionnaire.

Being in the Study is Voluntary, Confidential and Anonymous

Taking part in this study is completely up to you. You will not be expected to write your name or any other identifying particulars on the questionnaires because you will be given a unique identifying number that you will use throughout the duration of the study. No one will be able to link your answers to you. This means that participation in the study is completely anonymous. All your information will be used for research purposes only and we will keep all information confidential.

Risks or Discomforts

There are some risks to taking part in this study. Answering some of our questions may make you uncomfortable. You may also be asked to leave your workstation for an hour to attend the group sessions.

Benefits of Taking Part in the Study

If you take part in this study you may learn new ways to stay healthy and lower your chances of getting or spreading diseases. You will also help us to understand the best way to provide programmes that will help employees stay healthy.

Privacy

The field workers and interventionists have to sign confidentiality agreements to ensure that you and the name of your company are kept confidential during and after the study has been completed. In reports from this research answers will always be grouped with answers from other people, so there is no way for you to be identified. The only confidential data are information from the screening form, the consent forms and audio-tapes which will be stored in double-locked file cabinets. The screener, consent forms and tapes will be destroyed after one year of the completion of study activities. The principal researcher, the project manager and the field workers are the only people who will have access to these forms.

Participation and withdrawal

You can choose whether to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may refuse to answer any questions you do not want to answer. Withdrawing from the study does not have any impacts on the safety of your job or any work-related benefits such as promotions or bonuses.

Rights of Research Subjects

This study has been approved by the University of Cape Town and will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki. If you have any questions about your rights as a participant, concerns or complaints, please call the Committee for Human Research at the University of Cape Town 021 4066492.

Consent

In the box below, please put your initials if you agree to each of the following activities. You do not give up any rights by initialing any of the lines.

	Initials	What We're Asking of You
1		I agree to take part in the study, which has been fully described to me. I will complete the questionnaires and to the best of my ability attend all the sessions.
2		I understand that in about 3 months from now and again in about 8 months from now, I will be asked to complete more questionnaires,
3		I understand that some interviews or group sessions may be audio-taped for checking staff quality, if chosen.

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressured to take part. I also understand that I do not give up any rights by signing below.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.
- I have received an unsigned copy of this form to keep.

Name of participant

Signature of Participant

Date

If you have any questions or concerns about the research, please feel free to contact the UCT Health Sciences Research Ethics Committee at the Faculty of Health Sciences

ANNEXURE D
WORKPLACE QUESTIONNAIRE (WQ)

Participant Unique Identifying Number:

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Date of Interview:

/ / 20

Interviewer/Fieldworker Name:

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Company Name:

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For Official Use only

Survey Type (Cross/check one)

- Baseline Post-Intervention Follow up after post-intervention

Study Design Group (Cross/Check one)

- Intervention Comparison

Start Time: Ended at:

Quality Control conducted by: on

Signature of interviewer:

Signature of project manager:

Please Read:

This survey is voluntary. If you choose to take it, you may skip any question you don't want to answer.

This survey asks about your experience and opinion on a number of topics related to alcohol, drug use and sexual behaviour. Your answers to these questions will be confidential. That means no one will connect your answers with your name or other identifying information. To help us keep your answers confidential, please do not write your name on this questionnaire.

Some questions may ask you to select all of the answers that are relevant, and others ask you to select a single answer. If the question asks for a single answer and you don't find an answer that exactly fits, choose one that comes closest. If you do not understand a question, please ask the field worker for guidance.

Thank you for agreeing to participate in this survey.

SECTION A: DEMOGRAPHICS

I would like to ask you some background questions about yourself.
CROSS (X) THE BOX THAT IS MOST APPLICABLE TO YOU.

A1.	What is your Age :	<input type="text"/>
A2.	Sex:	<input type="checkbox"/> Male <input type="checkbox"/> Female
A3.	What is your home language: <i>Please write in space provided</i>
A4.	What was the highest grade you passed or your highest tertiary qualification?
A5.	Current marital status:	<input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Divorced <input type="checkbox"/> Widowed <input type="checkbox"/> Living together <input type="checkbox"/> Separated
A6.	Are you a Supervisor? <i>(A supervisor is responsible for the day-to-day performance of a small group. It may be a one person, team or a shift).</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
A7.	How long have you been working at your current place of employment	<input type="checkbox"/> Less than 6 months <input type="checkbox"/> 6 months to 1 year <input type="checkbox"/> 1-5 years <input type="checkbox"/> 5-10 years <input type="checkbox"/> 10-15 years <input type="checkbox"/> More than 15 years
A8	What type of work are you currently involved in?	<input type="checkbox"/> Maintenance <input type="checkbox"/> Assembly <input type="checkbox"/> Repairs <input type="checkbox"/> Operations <input type="checkbox"/> Technical installations <input type="checkbox"/> Customer interaction <input type="checkbox"/> Retail sales <input type="checkbox"/> Outside sales

	<input type="checkbox"/> Other: _____
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SECTION B: WORK ENVIRONMENT – [adapted from the World Health Organisation (WHO) health & work survey], Lehman, Reynolds & Bennett (2002), Bennett, Lehman & Forst (1999), Lehman and Simpson (1992)

In this section we will be asking you questions about your work, your work hours as well as your work performance. If you have any questions ask the field worker for assistance.

B1.	About how many hours all together did you work in the past 7 days? (No. of hrs. is 00-97, if more than 97 enter 97)	<input style="width: 80%; height: 20px;" type="text"/>
B2.	How many hours does your employer expect you to work in a typical 7-day week? (IF IT VARIES, ESTIMATE THE AVERAGE.) (No. of hrs. is 00-97, if more than 97 enter 97)	<input style="width: 80%; height: 20px;" type="text"/>

Please think of your work experiences over the past 4 weeks (28 days). In the spaces provided below, write the number of days you spent in each of the following work situations.
In the past 4 weeks (28 days), how many days did you... (Number of days (00-28))

B3.	Miss an entire work day because of problems with your physical or mental health? <i>(Please include only days missed for your own health, not someone else's health.)</i>	<input style="width: 40%; height: 20px;" type="text"/> <input style="width: 40%; height: 20px;" type="text"/>
B4.	Miss an entire work day for any other reason (including vacation)?	<input style="width: 40%; height: 20px;" type="text"/> <input style="width: 40%; height: 20px;" type="text"/>
B5.	Miss half of a work day because of problems with your physical or mental health? <i>(Please include only days missed for your own health, not someone else's health.)</i>	<input style="width: 40%; height: 20px;" type="text"/> <input style="width: 40%; height: 20px;" type="text"/>
B6.	Miss half of a work day for any other reason (including vacation)?	<input style="width: 40%; height: 20px;" type="text"/> <input style="width: 40%; height: 20px;" type="text"/>
B7.	Come in early, go home late or work on your day off?	<input style="width: 40%; height: 20px;" type="text"/> <input style="width: 40%; height: 20px;" type="text"/>
B8.	<p>About how many hours altogether did you work in the past 4 weeks (28 days)? (Please SEE EXAMPLES BELOW.)</p> <p>Examples of Calculating Hours Worked in the Past 4 Weeks</p> <p>40 hours per week for 4 weeks = 160 hours 35 hours per week for 4 weeks = 140 hours 40 hours per week for 4 weeks with two 8-hour days missed</p>	<input style="width: 80%; height: 20px;" type="text"/>

	= 144 hours 40 hours per week for 4 weeks with three 4-hour partial days missed = 148 hours	
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B9. On a scale from 0 to 10 where 0 is the worst job performance anyone could have at your job and 10 is the performance of a top worker, how would you rate the usual performance of most workers in a job similar to yours?

Worst Performance										Top Performance
0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B10. Using the same 0-to-10 scale, how would you rate your usual job performance over the past year or two?

Worst Performance										Top Performance
0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B11. Using the same 0-to-10 scale, how would you rate your overall job performance on the days you worked during the past 4 weeks (28 days)?

Worst Performance										Top Performance
0	1	2	3	4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B12. Physical Withdrawal

(Lehman, Reynolds & Bennett (2002), Bennett, Lehman & Forst (1999), Lehman and Simpson (1992))

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

During the last 12 months, how many times have you?

B12a.	Been late for work for reasons your supervisor would not excuse?	<input type="checkbox"/> None <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6 or more times
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B12b.	Take work supplies or equipment from work without permission and not returned them?	<input type="checkbox"/> None <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6 or more times
B12c.	Taken a longer lunch or rest break?	<input type="checkbox"/> None <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6 or more times
B12d.	Missed department or work group meetings?	<input type="checkbox"/> None <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6 or more times
B12e.	Fallen asleep while at work?	<input type="checkbox"/> None <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6 or more times
B12f.	Left work before the designated quitting time without permission?	<input type="checkbox"/> None <input type="checkbox"/> Once <input type="checkbox"/> Twice <input type="checkbox"/> 3-5 times <input type="checkbox"/> 6 or more times

B13. Individual Stress

(Adapted from Kahn, Wolfe, Quinn, Snoek & Rosenthal., 1964)

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

		Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree
B13a.	Work often makes me feel tense and anxious.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B13b.	My level of stress exceeds that of my co-workers.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B13c.	My level of stress exceeds that of my co-workers in other departments	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B13d.	I feel stress as a result of my job.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B13e.	I am consistently under heavy pressure in my job.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

B14. Group Stress*(Adapted from Kahn, Wolfe, Quinn, Snoek & Rosenthal., 1964)*

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

		Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree
B14a.	People in my work group often feel stress and frustration because of each other.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B14b.	Tension exists between employees in my work group.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B14c.	The stress level in my work group is greater than the stress level of most other work groups.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B14d.	People in my work group often show signs of strain.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

B15. Group Cohesion*(Adapted from Jones and James, 1979)*

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

		Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree
B15a.	The people in my work group trust each other and cooperate to get the job done.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B15b.	In my work group there are individuals who do not do their fair share of the work.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B15c.	There is often too much friction among the members of my work group.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B15d.	People in my work group work together as a team for group objectives and goals.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B15e.	When I face a difficult job, my co-workers can be counted to help me out.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

B16. Organisational Wellness*(Adapted from Fassel, 1990; McMillan & Northern, 1995 and Rosen, 1991)*

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

		Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree
B16a.	People in my work group have a lot of vitality and a healthy outlook on life.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B16b.	Health and safety is a top priority in my department.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B16c.	Most projects are planned so that we rarely rush or are pressured to meet	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

	deadlines.					
B16d.	It is easy for my co-workers and I to forget about pressures once the work day is over.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
B16e.	On most jobs and tasks, my co-workers work at a fairly even pace.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B16f.	In my department, differences in lifestyle and culture are appreciated (including, those with disabilities and elderly employees).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B16g.	In my work group, it is better to keep your ideas to yourself than to cause conflict with supervisors or co-workers	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
B16h.	Even when they differ, people at work are truthful about their personal viewpoints or feelings.	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
B16i.	This company offers wellness classes that we can attend (such as smoking cessation clinics, stress management, exercise programmes).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B16j.	Policies are flexible enough to meet the personal and family needs of different employees (such as maternity leave, sick days and annual leave).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

B17. Job Satisfaction

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

ON YOUR PRESENT JOB, HOW SATISFIED ARE YOU WITH –

		Highly Dissatisfied	Dissatisfied	In between	Satisfied	Highly Satisfied
B17a.	The opportunities to act and think independently?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B17b.	The feeling of accomplishing something worthwhile?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B17c.	The opportunity to participate in deciding on methods, procedures and goals of my work?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
B17d.	The authority connected with my job?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B17e.	The amount of responsibility I am given on my job?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B17f.	My job?	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

B18. Perceived risk at work

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

HOW MUCH ARE YOU CURRENTLY AT RISK OF LOST PRODUCTIVITY AND/OR SAFETY

PROBLEMS IN YOUR WORK SETTING BECAUSE OF -

		No risk	A little risk	Some risk	A lot of risk	Great risk
B18a.	Improper handling of machinery or toxic chemicals?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B18b.	Failure of employees to get help for personal problems they may be having?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B18c.	Management not listening to concerns about safety?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B18d.	Workers who act unsafely not being disciplined?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B18e.	Inadequate training on safety practices?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B18f.	Unsafe working conditions.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

B19. Tolerance/ Responsiveness

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

IF A COWORKER HAD A PROBLEM AT HOME THAT WAS INTERFERING WITH HIS/HER ABILITY TO WORK, HOW LIKELY WOULD YOU BE TO -

		Very Unlikely	Unlikely	In Between	Likely	Very Likely
B19a.	Say something to the employee	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B19b.	Say something to your supervisor.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
B19c.	Contact the EAP to get help as to what to do.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION C: Workplace Substance Abuse Policy & Employee Assistance Programme (EAP) Utilisation

[Substance Abuse & Mental Health Services Administration (SAMHSA) – National Survey on Drug Use & Health (NSDUH) Workplace and AOD use and perceptions of workplace policy Survey]

In this section you will be asked questions about any workplace policies you may have at your place of work, as well as some questions relating to you Employee Assistance/Wellness Programmes (EAP/EWP). Cross (X) the box that applies to you.

C1.	At your place of work, do you have an alcohol and drug/substance abuse policy?	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know (If you tick 2, skip question C8)
C2.	How knowledgeable are you about the Substance Abuse Policy at your job?	<input type="checkbox"/> 1 Not at all <input type="checkbox"/> 2 A little <input type="checkbox"/> 3 A lot <input type="checkbox"/> 4 Very much
C3.	If you had a substance problem, would you feel free to talk with your supervisor without fear of being punished or fired?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
C4.	Do you personally know how to get help from your job for you or someone else that may have a substance use problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes

C5.	At your place of work, have you been given any educational information sessions regarding the use of alcohol and drugs?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
C6.	If your answer to question C5 was 'Yes', was this..	<input type="checkbox"/> 1 Less than 12 months ago <input type="checkbox"/> 2 1-2 years ago <input type="checkbox"/> 3 More than two years ago <input type="checkbox"/> 4 I don't know

C7. Policy Attitudes: Fairness and Effectiveness

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR THOUGHTS.

		Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree	I don't know
C7a.	I support the purpose and goals of the substance abuse policy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
C7b.	The policy is enforced so that all employees are treated fair and in a confidential manner	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
C7c.	The policy focuses more on punishing than on helping employees with problems	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
C7d.	The policy is effective in reducing substance abuse by employees	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
C7e.	More needs to be done to stop substance abuse by employees	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
C7f.	The policy is enforced to the same extent for both supervisors and non-supervisors	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

C8. Employee Assistance Programme

C8a.	Does your workplace offer an Employee Assistance/ Wellness Programme (EAP/EWP) to help you with both personal and work-related problems?	<input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know (If 2, go to Section D)
C8b.	Would you be willing to use your workplace's program for a personal or work-related problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
C8c.	Have you ever used your workplace's program for a personal or work-related problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes, but not in the past 6 months <input type="checkbox"/> 2 Yes, in the last 6 months
C8d.	How satisfied are you with the help you received or can receive from your workplace's EAP/EWP?	<input type="checkbox"/> 1 Very dissatisfied <input type="checkbox"/> 2 Somewhat dissatisfied <input type="checkbox"/> 3 Neither dissatisfied nor satisfied <input type="checkbox"/> 4 Somewhat satisfied <input type="checkbox"/> 5 Very satisfied <input type="checkbox"/> 6 Prefer not to answer
C8e.	Have you ever encouraged a coworker to call the EAP for help with a work-related problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes, but not in the past 6 months <input type="checkbox"/> 2 Yes, in the last 6 months
C8f.	Have you ever encouraged a coworker to call the EAP for	<input type="checkbox"/> 0 No

	help with a non work-related problem?	<input type="checkbox"/> 1 Yes, but not in the past 6 months <input type="checkbox"/> 2 Yes, in the last 6 months
C8g.	Have you ever been encouraged by a coworker to call the EAP for help with a work-related problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes, but not in the past 6 months <input type="checkbox"/> 2 Yes, in the last 6 months
C8h.	Have you ever been encouraged by a coworker to call the EAP for help with a problem that was not work-related?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes, but not in the past 6 months <input type="checkbox"/> 2 Yes, in the last 6 months
C8i.	Have you ever been asked by a supervisor to call the EAP for help with a work-related problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes, but not in the past 6 months <input type="checkbox"/> 2 Yes, in the last 6 months
C8j	Would you recommend the EAP to a co-worker who you thought needed help?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
C8k	If an employee called the EAP for help with a problem, how likely is it that the employee's supervisor would find out?	<input type="checkbox"/> 1 Very unlikely <input type="checkbox"/> 2 Unlikely <input type="checkbox"/> 3 In between <input type="checkbox"/> 4 Likely <input type="checkbox"/> 5 Very Likely
C8l.	If an employee calls the EAP for help with an alcohol or drug problem, how likely do you think they would be disciplined for it?	<input type="checkbox"/> 1 Very unlikely <input type="checkbox"/> 2 Unlikely <input type="checkbox"/> 3 In between <input type="checkbox"/> 4 Likely <input type="checkbox"/> 5 Very Likely
C8m.	If an employee contacts the EAP for help with an alcohol or drug problem, how likely is it that the EAP could help the employee with the problem?	<input type="checkbox"/> 1 Very unlikely <input type="checkbox"/> 2 Unlikely <input type="checkbox"/> 3 In between <input type="checkbox"/> 4 Likely <input type="checkbox"/> 5 Very Likely

SECTION D: SUBSTANCE ABUSE RELATED KNOWLEDGE

Read the following set of questions and Cross (x) the box you think most adequately describes your thoughts on the statement.

D1.	Alcohol is a stimulant?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D2.	Having one or two drinks of beer, wine, hard liquor or mixed drinks in the evening is not problematic?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D3.	Having five or more drinks in the evening is misuse of alcohol?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D4.	Exercise or a cold shower can make you sober quicker?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D5.	Going to work with a hangover is okay?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D6.	One can become an alcoholic by drinking just beer?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D7.	Using substances such as alcohol or drugs impairs your judgement?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D8.	Using substances such as alcohol or drugs can lower your inhibitions and cause you to do things that you will not normally do?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D9.	Persons using alcohol or drugs socially will not develop a long-term problem?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D10.	Alcohol is not a drug; therefore you cannot become addicted to it?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D11.	Using drugs only on weekends is better than using every day?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know
D12.	Needing a drink or a drug first thing in the morning is normal?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I don't know

SECTION E: ALCOHOL CONSUMPTION (If you do not use any alcohol, go to Section F)

(HIV prevention intervention in bars and shebeens in Tshwane, South Africa - Baseline Assessment)

NOW WE WILL ASK YOU QUESTIONS ABOUT YOUR ALCOHOL CONSUMPTION. CROSS (X) THE BOX THAT APPLIES TO YOU.

E1.	How often do you have a drink containing alcohol?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	IF 0, go to Section F
-----	---------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------

E2.	Out of the past 30 days, on how many days have you had <i>any use of alcohol?</i>	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>No. of days out of 30</p> <p>___/30</p> </div>	
E3.	Out of the past 30 days, on how many days did you have five or more drinks on one occasion? <i>(Please note that one drink is equivalent to one can or dumpie of beer, cider or coolers; or one glass of wine; or one tot of spirits).</i>	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>No. of days out of 30</p> <p>___/30</p> </div>	
E4.	How often in the last 6 months did you ever have one or two drinks during your lunch hour?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E5.	How often in the last 6 months did you ever have more than two drinks during your lunch hour?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E6.	How often during the last year have you found that you were unable to cut down on your drinking?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E7.	How often during the last year have you failed to do what was normally expected from you because of drinking?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E8.	How often during the last year have you needed a first drink in the morning to get yourself going and to steady your nerves?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E9.	How often during the last year have you had a feeling of guilt or remorse after drinking?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E10.	How often during the last year have you been unable to remember what happened the night before because you had been drinking?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	

E11.	How many times in the past 6 months did you go to work with a hangover?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E12.	How many times in the past 6 months did you miss work or call in sick because of a hangover?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E13.	Are you in a safety sensitive job in which you may be asked to take a random test for alcohol?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
E14.	Has a relative, friend, doctor or other health worker been annoyed about your drinking or suggested you cut down?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily	
E15.	Would treatment for a drinking problem be available for you if you needed it?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 Don't know	
E16	Do you think you may have a drinking problem? <i>(If you answer 'yes' to this question, please read the resource list of this questionnaire on how we can help you.)</i>	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 Maybe	

SECTION F: PROFILE OF DRUG ABUSE (If you do not use any drugs, go to Section G)

(Adapted from HIV prevention intervention in bars and shebeens in Tshwane, South Africa - Baseline Assessment AND SACENDU data collection instrument – Parry et al., 1996)

The next set of questions refers to your use of drugs, which includes the following:

- Dagga/cannabis/marijuana
- Dagga/mandrax combination
- Prescription drugs without a doctor's prescription (NOTE: drugs you may have taken to achieve effects other than what they are medically prescribed for) such as Valium, Ativan, Xanor, Wellconal, Morphine, codeine
- Over-the Counter drugs such as Disprin, Grandpa, Stilpain (without a prescription)
- Tik/ Methamphetamine
- Cocaine/crack
- Ecstasy
- Heroin

In the box (i) below, indicate which drugs you have used **in the past 12 months** by name (e.g. dagga) in order of choice or preference. If you use more than one drug, you can list your drugs in order of preference (e.g. my first frequently used drug is dagga and my 2nd most frequently used drug is grandpa tablets). In box (ii) tick the box that indicates how often you use your drug of choice using the code described provided below cross (X) the box that applies to you. *(Please ask the field worker for guidance).*

		(i) In the last 12 months I have used the following drugs: <i>Write in the name of the drug below:</i>	(ii) Frequency of use during past 12 months (cross one) <i>1 =daily, 2 =2-6 days per week, 3 =Once per week or less often, 4 =not in past month</i>			
F1.	1st most frequently used drug		1	2	3	4
F2.	2 nd most frequently used drug		1	2	3	4
F3.	3 rd most frequently used drug		1	2	3	4
F4.	4 th most frequently used drug		1	2	3	4

F5.	How often did you use any of these drugs while you were at work (including during breaks or the lunch hour) or right before going to work in the last 6 months?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily		
F6.	How often did you use any of these drugs while you were NOT at work (including after work or on weekends) in the last 6 months?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily		
F7.	Out of the past 30 days, on how many days have you had <u>any use of the above drugs?</u>	<table border="1" style="margin: auto;"> <tr> <td>No. of days out of 30</td> </tr> <tr> <td>___/30</td> </tr> </table>	No. of days out of 30	___/30
No. of days out of 30				
___/30				

F8.	How often do you use multiple drugs e.g.: alcohol plus cocaine or heroin/cocaine and dagga?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F9.	How often during the last year have you tried to stop using drugs?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F10	How often during the last year have you failed to do what was normally expected from you because of drugs?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F11	How often during the last year have you had a feeling of guilt or remorse after using drugs?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F12	How often during the last year have you been unable to remember what happened the night before because you had been abusing drugs?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F13	How many times in the past 6 months did you go to work under the influence of drugs?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F14	How many times in the past 6 months did you miss work or call in sick because you were under the influence of drugs?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F15	Are you in a job where you may be asked to take a random drug test because of safety reasons?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
F16	Has a relative, friend, or a doctor or other health worker been concerned about your drug use or suggested you stop?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Less than monthly <input type="checkbox"/> 2 Monthly <input type="checkbox"/> 3 Weekly <input type="checkbox"/> 4 Daily or almost daily
F17	Would treatment for a drug abuse problem be available for you if you needed it?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 I Don't know

F18	Do you think you may have a drug abuse problem? <i>(If you answer 'yes' to this question, please read the resource list of this questionnaire on how we can help you.)</i>	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes <input type="checkbox"/> 2 Maybe
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SECTION G: CO-WORKER SUBSTANCE USE

(Lehman, Reynolds & Bennett (2002), Bennett & Lehman (1998, 1999, 2001)

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

G1: Co-worker Drinking

G1a.	In the past 6 months, how often was there someone at your job who drank alcohol either while at work (including during a break or lunch time) or just before going to work?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Once or twice <input type="checkbox"/> 2 three or more times
G1b.	How often in the past 6 months were you aware of a co-worker who was "under the influence" or 'drunk' from alcohol while at work?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Once or twice <input type="checkbox"/> 2 three or more times
G1c.	During the work day, how many times have you ever smelled alcohol on the breath or clothing of a co-worker, observed a co worker drinking alcohol right before work, at work, or during lunch, or saw signs of alcohol use that were most likely left by a co worker?	<input type="checkbox"/> 0 Never <input type="checkbox"/> 1 Once or twice <input type="checkbox"/> 2 Three or more times

G2: Co-worker Drug Use

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

G2a.	Of co-workers you usually see or work around each day on your job, how many would you say sometimes used illegal drugs either before or during work in the last 6 months?	<input type="checkbox"/> 0 None <input type="checkbox"/> 1 One or two <input type="checkbox"/> 2 three or more
G2b.	Of co-workers you usually see or work around each day on your job, how many do you know of who sometimes sold or gave illegal drugs to others at work during the last year?	<input type="checkbox"/> 0 None <input type="checkbox"/> 1 One or two <input type="checkbox"/> 2 three or more

G3: Response to co-worker drinking or drug use

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

3a.	Have you ever experienced or suspected a co-worker of using alcohol or other drugs at work, or working under the influence?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
If you answered YES to Question G3a what did you do about the situation? If you answered NO, go to G4		
G3b.	I ignored the situation or looked away.	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
G3c.	I discussed the situation with a fellow worker	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
G3d.	I talked with the co-worker who I either saw or suspected of using.	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
G3e.	I talked with my supervisor.	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
G3f.	I contacted the EAP	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes

G4. Workplace Drinking Climate

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

		Never	Rarely	Sometimes	Often	Almost Always
G4a.	How often do any of your co-workers like to drink after work as a way of socializing together?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G4b.	How often is the talk at work about drinking or activities involving drinking?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G4c.	How often is alcohol available at work-related parties that are held away from work?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G4d.	How often does any of your co-workers drink together just to get drunk?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

G5. Norm of tolerance and responsiveness

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

If their own work was affected by a fellow employee who had a drinking or drug problem, how likely would your co-workers:

		Very unlikely	Unlikely	Likely	Very likely
G5a.	Ignore the problem?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
G5b.	Cover for or 'pick up the slack' for the coworker?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
G5c.	Try to encourage the co-worker to stop drinking or using or get help?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4
G5d.	Report the problem to a superior?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4

G6 Consequences of co-worker drinking or drug use

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

Based on your personal experience, how often in the past 6 months has alcohol or drug use among your co-workers caused:

		Never	Rarely	Sometimes	Often	Almost Always
G6a.	You to have to do more than your fair share of the work?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G6b.	Morale problems in your work group?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G6c.	More chance for injuries to you or others in your work group?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G6d.	Damaged equipment or wasted supplies?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G6e.	Poor quality work?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G6f.	Poor communication in your work group?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

G7. Stigma Perceptions

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

		Strongly Disagree	Disagree	Sometimes	Agree	Strongly Agree
G7a.	My co-workers would think less of me if they thought that I had a drinking or drug problem.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G7b.	My co-workers would think less of me if they thought that I had gotten help for a drinking or drugs problem.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G7c.	My co-workers would be quick to pass judgement on someone that they thought drank heavily or used drugs.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G7d.	My co-workers might think negatively of someone who had gone to the EAP to get help for a drug or alcohol problem,	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

G8. Formal Sanctions (Punishment)

CROSS THE ONE RESPONSE FOR EACH QUESTION THAT COMES CLOSEST TO YOUR EXPERIENCE.

What would be the most common reaction of persons in authority toward an employee who:

		Do Nothing	Verbal Warning	Written Warning	Suspend	Fire
G8a.	Was under the influence of alcohol at work?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G8b.	Had a few drinks at lunch?					

		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G8c.	Was under the influence of dagga or tik at work?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G8d.	Had possession of dagga or tik at work?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
G8e.	Came to work with a hangover or under the influence?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION H: SUBSTANCE - RELATED CONSEQUENCES

[Substance Abuse & Mental Health Services Administration (SAMHSA) – National Survey on Drug Use & Health (NSDUH)]

CROSS (X) THE BOX THAT APPLIES TO YOU

The following set of questions look at the possible consequences associated with substance abuse (substance abuse refers to the use of alcohol or any other drug).

H1.	Has using substances ever caused you to get a traffic fine?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H2.	Has using substances ever caused you to get arrested?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H3.	Has using substances ever caused you to have money problems?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H4.	Has using substances ever gotten you in trouble at work?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H5.	Has using substances ever affected the quality of your work?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H6.	Has using substances ever negatively impacted your family relationships?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H7.	Has your substance use ever caused you to pass out?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes
H8.	Have you or someone else been injured as a result of your substance abuse?	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes

SECTION I: SUBSTANCE-RELATED HIV RISKS

(Drugs and sexual effects Rawson et al., 2001)

THE FOLLOWING QUESTIONS RELATE TO SUBSTANCE-RELATED HIV RISKS. REMEMBER NO ONE WILL BE ABLE ASSOCIATE THESE ANSWERS WITH YOU. THE QUESTIONNAIRE IS COMPLETELY ANONYMOUS.

CROSS (X) THE BOX THAT APPLIES TO YOU.

11. How many times have you had sex in the past 6 months?	_____ No of times	If 0, go to the end of this page.
12. Have you or your partner used a condom in the past 6 months?	_____ No of times	
13. My sexual drive increases when I use my primary (main) substance of abuse	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
14. My sexual performance is improved when I use my primary (main) substance of abuse	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
15. I have more sexual pleasure when I use my primary (main) substance of abuse	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
16. Use of my primary (main) substance of abuse has made me become obsessed with sex and/or made my sex drive abnormally high	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
17. I'm more likely to have sex with someone other than my permanent partner/wife/husband when using my primary (main) substance of abuse	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
18. When under the influence of my primary (main) substance of abuse I am less likely to use a condom when having sex with someone other than my permanent partner	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	
19. When I am under the influence of my primary (main) substance of abuse, I am more likely to engage in sex with multiple partners.	<input type="checkbox"/> 0 No <input type="checkbox"/> 1 Yes	

**If you answered 'Yes' to questions E16 and F18.
Please read the attached pamphlet.**

Thank You for completing the Questionnaire!

Appendix Removed
Due to having unremovable
Signatures

Annexure F Focus Group Interview Guide

FOCUS GROUPS: FACILITATORS NOTES PAGE

<u>Focus Group Programme Outline</u>	<u>Who</u>	<u>Items needed:</u>
<p>INTRODUCTION:</p> <ul style="list-style-type: none"> • Introduce self as facilitator, co-facilitator and scribe • Get to know each other (introductions) • Structure of the session • Scope of work at ADARU – what we are planning to do: Knowledge gap, MRC and responsibility towards health improvement. • Scope of work at CoCT - What we are planning to do at CoCT (Survey plus Intervention). • Confidentiality Agreement <p>WHY YOU ARE HERE:</p> <ul style="list-style-type: none"> • You have been selected to serve as consultants for Metro police; needed a group of officers that represent the larger police force . as mentioned we want to design a training manual but we need you to guide use, by offering insights, knowledge, opinions on how best to design the modules. We want the modules to meet you and your co-workers needs • Team Awareness – means exactly that : becoming more aware of your team. As police officers you are tasked with major responsibilities such ensuring the safety of our countries people. This accompanied by a lot of stressors that place us at risk for certain behaviours that are harmful (even though we perhaps perceive them as not), sometimes in team we don't always know how to deal with co-workers and we perpetuate the risks. So this programme strives to create awareness of risks and how we can work as a team to alleviate the risks such as substance abuse and HIV and help each other. <p>THE PRIMARY GOAL</p> <ul style="list-style-type: none"> • To establish rapport, we want to create a safe 	<p>NB: Lead Interviewer,</p> <p>EN and TC: co-facilitators</p> <p>LR: Scribe</p>	<p>Ball</p> <p>Kokis Flipchart</p> <p>Chat principles</p>

environment – and if you are not feeling safe you need to let me know. So to help this process we need to discuss 2 main aspects which is role/ content

ORIENTATION TO PARTICIPANT ROLE

- **Role of customer** - to give your perspective on other's and your own needs. I am just a researcher so your inputs will help us make the training relevant and important.
- **Role of actual trainee** – you will pre-view some of the exercises that we will be using in the training, so your honest reactions will be welcomed and will help us improve the material.

ORIENTATION TO RESEARCHER ROLE

- Writing down and recording as much as you say – if you are uncomfortably for us to write something down – let us know
- Recording of information, for quality checks
- So to encourage openness – CHAT principles

ORIENTATION TO CONTENT

- Over view content

Many workplaces have basic procedures for managing problems that arise in the work sector. For instance they would have EWPs, HIV programmes, substance abuse programmes etc. The problem is that there are in actual few/no studies that have tested the effectiveness of programmes that prevent teams from enabling each other – and perpetuating behaviours that lead to risks. In south Africa we need to implement programmes that work, so with this studies we are testing the effectiveness of team awareness so that it can help others in the work sector.

Team awareness has been studied in USA with good results, but we need to study it here as well.

We would like you to help us make the training as effective as possible, so you will be shown a small portion of the training that we plan to do.

Confidentiality agreement
(Visible)

BACKGROUND QUESTIONS:

- I would like to start off by asking questions about work stressors for you and your colleagues:
 1. Job and role that you play
 2. Responsibilities and accountability
 3. Issues around diversity and prejudice
 4. Alcohol and drug abuse
 5. Substance-related HIV
 6. Work cultures (blue code)
 7. Regarding 7, how is the negative or positive?
 8. Protecting colleagues
 9. What are some of the challenges that women face in the police?
 10. How do women cope with these stressors?

- Work uplifts
 1. What is positive about your job?

- Privacy Regulation - Rating sheets
 1. The score sheet will be used to evaluate how you rate privacy?
 2. How do we address these?
 3. Distinction between the grapevine and overly secretive

- Have there been any major changes in your workplace over the last 2 years? How have these impacted you?
- What do you know about your EAP?
- Describe a situation where you or colleagues might use the EAP?
- What would deter you or a colleague from using the EAP?
- How can the workplace improve upon its EAP services?

PREVIEW OF MATERIAL :

- How can this exercise be improved on? Help us

Informed Consent Form

ape reorders
Flip charts

Informed consent

Chat principles on flip chart
and handout – (signed
flipchart)

Rating sheets 1-5

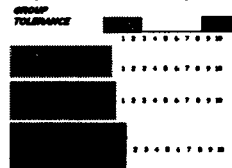
Privacy Regulation Rating
sheet

generate questions that you think is more pertinent to experiences in the police force.

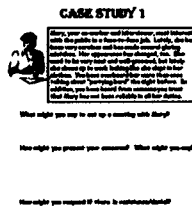
- Case Studies : Help us generate real life questions?

- Listening do's and don'ts (Module 5)

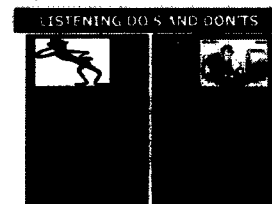
Copies for each participant



Copies for each participant



Copies for each.



- How can we encourage attendance and ensure participants of the ethical standards sets?
- What kinds of questions will come up – having gone through this focus group?
- Any other issues we should be sensitive to?

THANK YOU FOR YOUR PARTICIPATION

Annexure G: Consent to Participate in Focus Group

CONSENT TO PARTICIPATE IN FOCUS GROUP DISCUSSION

You are asked to participate in a focus group discussion for a research study conducted by Nadine Harker Burnhams from the Alcohol and Drug Research Unit, of the Medical Research Council. Please read the information below and ask questions about anything you do not understand, before deciding whether to participate.

You have been selected to participate in this study because (Name of company) has been selected for participation and agreed to take part in this research study. As an employee at (Name of company) you are eligible for participation and in addition to this you also meet the inclusion criteria for the study.

Purpose of the Study

The purpose of this research study is to test the effectiveness of an evidence-based workplace substance abuse and substance-related HIV prevention programme within the service industries.

Procedures

If you volunteer to participate in this study, you will be asked:

- To participate in a focus group discussion.
- We will ask you to answer questions about work, alcohol, other drug use, and other behaviours in your workplace setting.
- This focus group might last up to 90 minutes.
- You may choose to omit any questions you would prefer not to answer.
- Group sessions will be audio-taped for quality assurance purposes, if permission is granted by the group.

Being in the Study is Voluntary, Confidential and Anonymous

Taking part in this study is completely up to you. You will not be expected to give your name or any other identifying particulars to the facilitator. No one will be able to link your answers to you. This means that participation in the study is completely anonymous. All the information will be used for research purposes only and we will keep all information confidential.

A confidentiality agreement was signed by the Director of the unit, as well as the Principal Investigator.

Risks or Discomforts

There are some risks taking part in this study. Answering some of our questions may make you feel uncomfortable.

Benefits of Taking Part in the Study

By attending this focus group discussion, you will assist the research team by giving them information on your workplace in general, about different dynamics in teams, as well as useful information that is needed in this research project. You will also help us to understand the best way to provide programmes that will help employees stay healthy.

Privacy

The facilitators, field workers and interventionists have to sign confidentiality agreements to ensure that your name and your company are kept confidential during and after the completion of the study. In reports from this research, answers will always be grouped with answers from other people, so there is no way for you to be identified. You will be asked to sign this consent form, but it will be kept separate from all other information and therefore it will not be linked to any answers that you provide the research team with. The confidential information given during this focus group session will be stored in double-locked file cabinets and the audio tapes will be destroyed after one year of the completion of study activities. The principal researcher, the project manager and the field workers are the only people who will have access these tapes and information.

Participation and withdrawal

You can choose whether to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may refuse to answer any questions you do not want to answer. Withdrawing from the study does not have any impacts on the safety of your job or any work-related benefits such as promotions or bonuses.

Rights of Research Subjects

This study has been approved by the University of Cape Town and will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki. If you have any questions about your rights as a participant, concerns or complaints, please call the Committee for Human Research at the University of Cape Town 021 4066 492.

Consent

In the box below, please put your initials if you agree to each of the following activities. You do not give up any rights by initialing any of the lines.

	Initials	What We're Asking of You
1		I agree to take part in the focus group discussion, which has been fully described and explained to me.
2		I understand that the group sessions may be audio-taped for checking staff quality.

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressured to take part. I also understand that I do not give up any rights by signing below.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Annexure: Team Awareness H

Usually no one person is responsible for the problem...

More often, we are all responsible for the solution.



ORGANIZATIONAL WELLNESS & LEARNING SYSTEMS

www.organizationalwellness.com

Science-Based Prevention Now in the Workplace

Proven Results*

Employees who drink/paste in Team Awareness were:

- Significantly less likely to come to work under the influence of drugs or alcohol
- Two times as likely to decrease problem drinking behaviors
- Nearly three times less likely to work with or miss work due to a hangover
- Likely to double their help-seeking behavior
- Significantly more likely to work in groups that encourage coworkers to stop drinking or drug habits

*Six month follow-up analysis compared to a control group. Results are presented with specific measurements of common business barriers (e.g., reduced attendance, absenteeism, increased turnover, decreased productivity, and productivity loss).

What is Team Awareness?

Team Awareness is a workplace-training program that addresses behavioral risks associated with substance abuse among employees, their coworkers and, indirectly, their families. This innovative program has been shown to increase employee help-seeking for and supervisor responsiveness to troubled workers, enhance the work climate, and reduce problem drinking. Results are achieved by:

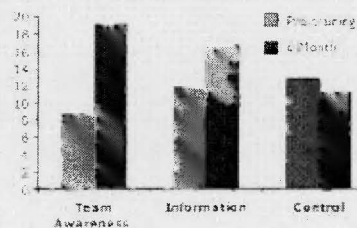
- Promoting social health
- Promoting increased communication between workers
- Improving knowledge and attitudes toward alcohol- and drug-related protective factors in the workplace (such as company policy or Employee Assistance Programs)
- Increasing peer referral behaviors

The training consists of six modules and is conducted across two 4-hour sessions with a business group of any size. Team Awareness is highly interactive and uses group discussion, communication exercises, a board game, role play, and self-assessments. Modules cover policy ownership, enabling, stress management, and listening skills.

Target Population

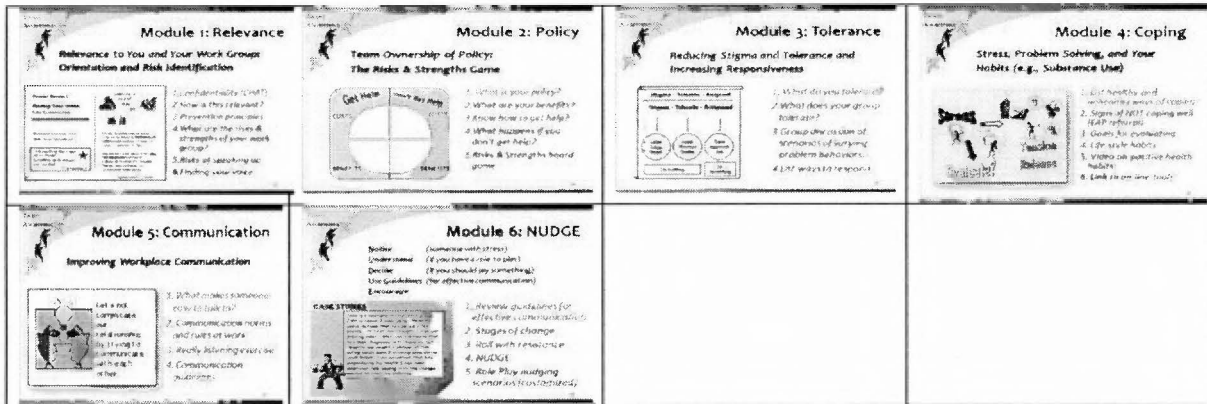
Team Awareness is designed for use in any type of organizational setting where employees interact with or depend on each other to get work done. The training may be particularly effective for safety-sensitive occupations (e.g., construction workers, emergency response and law enforcement personnel, machinery operators, municipalities, transportation workers) or where tradition supports coworkers' shared use of alcohol to socialize. The program has been tested on a wide variety of white- and blue-collar occupations with same or mixed gender compositions within two municipal work forces. Team Awareness has also been adapted for use by small businesses and community-based alcohol or drug awareness centers.

Increased EAP involvement following Team Awareness:
Percent employees who contacted, encouraged contacts, or were nudged to use the EAP



Information group received review of EAP policies and procedures; control group received no additional training.

Annexure I



Annexure J: The seven principles of prevention

An ounce of Prevention Principles

These apply to all areas of work & life in general

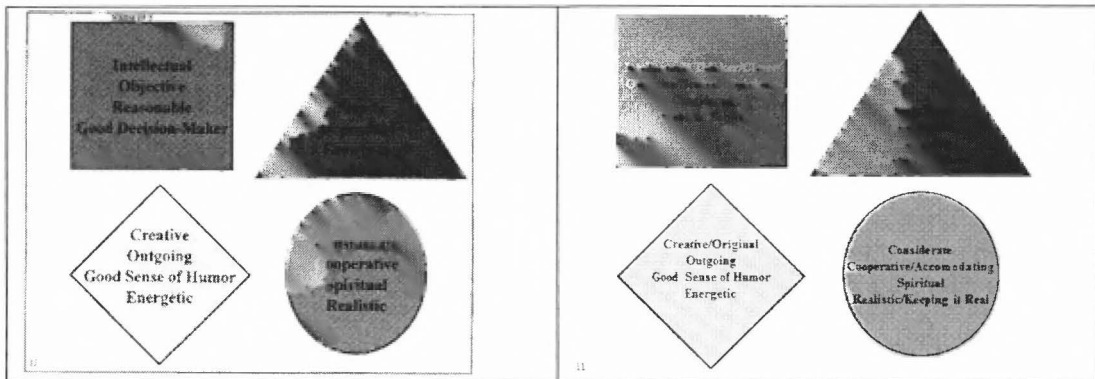
1. Identify and reduce **risks** that cause or aggravate the problem
2. Identify and increase **benefits & strengths** that address the problem
3. Know and appreciate **policy** as your guide and safeguard
4. Understand your own **tolerance** for the situation & adjust if necessary
5. Work together as a **team** to communicate & solve problems
6. Develop or enhance stress problem solving **skills** (alternative solutions)
7. **Communicate** the problem & support others (don't isolate & withdraw) ;



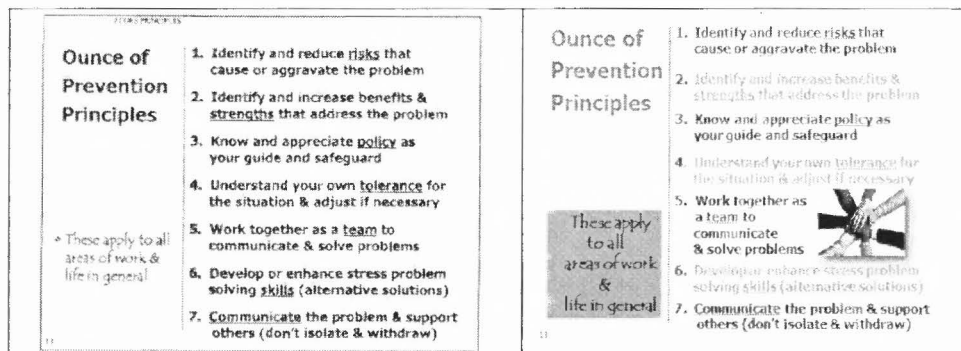
Annexure K: Actual slide modification (Old and New)

Module 1

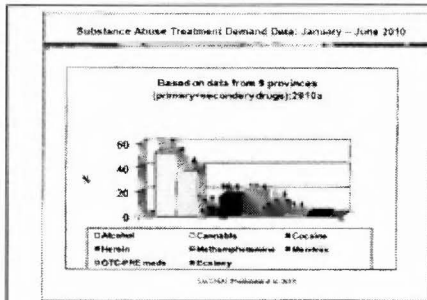
- Words were inserted to clarify concepts as in the following example. (Module 1, slide 11)



- The use of colour and a picture introduced that related to the concepts on the slides. The colours *green* and *red* used in the board game for chips to indicate risks (red) and strengths (green) were utilized to further depict strengths (negatives) and risks (positives) throughout the modules.



- South African statistics were inserted in this module. Thereafter, the slides were again studied and it was decided to amend the slides, because the presentation was very long tiresome to someone that is not use to analyze statistics
- Some of the slides we changed completely. For example, the following slide:



For what kind of drugs do people in South Africa seek treatment/help?

People in SA seek help mostly for:	%
Alcohol	52
Dagga	35
Heroin	17
Marijuana	16
Ecstasy	10

Substance Abuse Treatment Demand Data: January – June 2010

Exploring Risks: Specific Occupational Factors

Metzger et al. (2007) interviewed a sample of 275 police officers in a study of 1271 male workers. 5.9% of death certificates obtained from these workers found SAC issues above the 50 mg/ml (strong) level (Jurek et al., 2003).

The reported prevalence of one use of alcohol on a Saturday or a Sunday in Africa (sample size) was 48.4%.

- 10% of the sample also often use the work
- 41% reported alcohol use at work
- 57% indicated how alcohol at work with 75% being on the job

Exploring Risks: Specific Occupational Factors

Question???

If a Metro Police Officer comes to work with a headache or intoxicated. What are the occupational risks to the:

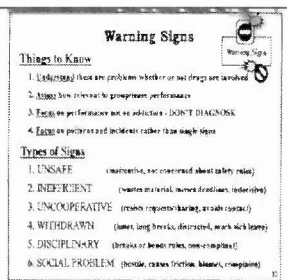
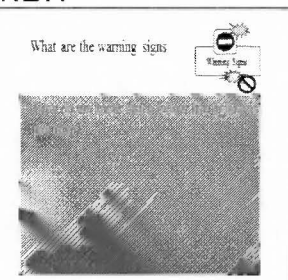
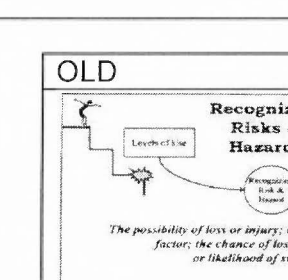
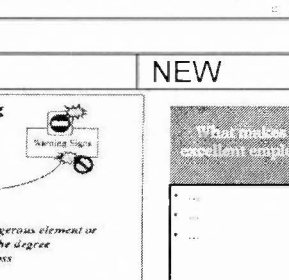
- Police Officer
- His/her Co-workers
- The public

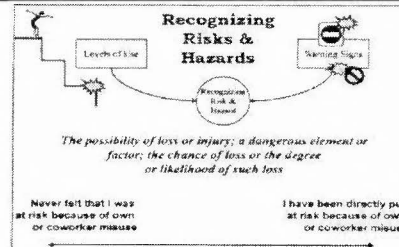
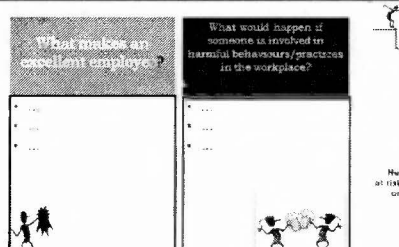
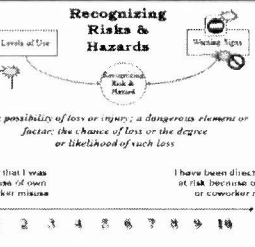
Module 2 (part 1 and 2)

Hand-out 1: Policy Knowledge. The Substance Abuse Policy, the HIV Policy of the as well as the Wellness Policies of the City of Cape Town Police Service and the City of Cape Town Fire and Rescue Service were used to customise hand-out 1. A few new policy questions were inserted.

OLD	NEW
<p>Policy Knowledge</p> <p>6 True False Employees must report to their supervisors before they can utilize the HIV Disease management service.</p> <p>7 True False Employees who are aware of a coworker who is under the influence of alcohol or drugs should tell that coworker to go home.</p> <p>8 True False MRC employees and their families have access to an HIV/AIDS toll-free helpline</p> <p>9 True False The most important part of supervisor training is knowing signs/symptoms of alcohol/drug use</p> <p>10 True False Employees who directly utilize the service of an EAP counselor or psychologist are assured of confidential treatment</p> <p>Policy Knowledge 2 – Use Handout 2</p>	<p>Policy Knowledge</p> <p>6 True False Employees shall get permission from a supervisor before they can utilize the services of the EWP Practitioner.</p> <p>7 True False Employees who are aware of a coworker who is under the influence of alcohol or drugs should tell that coworker to go home.</p> <p>8 True False The types of substances referred to in 'substance abuse' are alcohol and marijuana.</p> <p>9 True False The most important part of supervisor training is knowing signs/symptoms of alcohol/drug use</p> <p>10 True False Employees who directly utilize the service of an EAP counselor or psychologist are assured of confidential treatment</p> <p>Policy Knowledge 2 – Use Handout 1</p>
<p>What do you know?</p> <p>6 False Employees who seek help on their own need not tell ANYONE.</p> <p>7 False If intoxicated worker is in accident or endangers/hurts on way home, company and referring employee may be liable</p> <p>8 True Yes, this service is free of charge and provides confidential support and advice.</p> <p>9 False Supervisors need to know how to encourage employees to get help and how to approach problems as much (if not more) as they need to know signs/symptoms</p> <p>10 False Unless they endanger themselves or others treatment is legally required to be confidential; no one at work needs to know</p> <p>Policy Knowledge 2 – FRED/SACT</p>	<p>What do you know?</p> <p>6 False In the case of a self-referral, the employee shall make arrangements to see the EWP practitioner and shall notify his/her supervisor of the appointment in advance. (CoCT Employee Wellness Policy Implementation Guideline, Doc. Y1.0, p. 3)</p> <p>7 False If management or any member of staff is of the opinion that an employee has diminished responsibilities as a result of being under the influence of drugs/alcohol whilst at work, the employee will be prohibited from continuing work." (Substance Abuse Policy, 2005, CoCT, p. 2)</p> <p>8 False Substances in substance abuse include inter-alks alcohol, solvents, prescription drugs such as analgesics, cough syrups, diet preparations and stimulants as well as marijuana, cocaine, ecstasy etc. (Substance Abuse Policy, 2005, CoCT, p. 3)</p> <p>9 False Supervisors need to know how to encourage employees to get help and how to approach problems as much (if not more) as they need to know signs/symptoms. But supervisors should not diagnose or label employees</p> <p>10 True Unless they endanger themselves or others, treatment is legally required to be confidential; no one at work needs to know</p> <p>Policy Knowledge 2 – FRED/SACT</p>

- Certain slides were changed around and a slide or two were inserted to assist the participants to make connections between the slides.
- The slide “What are the warning signs” was inserted in order to precede the next slides “warning signs”
- The slide “warning signs” became two slides
- The slide “what makes an excellent employee” was inserted to refer to the next slides: “recognising risks and hazards” and “getting help, getting caught”.

OLD	NEW
	
	

OLD	NEW
	
	

- Nearly all of the questions for the Risk and Strengths Board Game were changed to refer to the Substance Abuse or HIV policy of the particular workplace or South African substance abuse or HIV information.

Questions that was left unchanged/ or shifted	1,5,8,10,14
Questions that was changed	2-3-7
Questions left out completely	4,6,9,11,12,13,15,16,17,18,19,
Alternative questions and new questions	Alternative Q9, AQ16, AQ17, AQ18, AQ19, and new 21, 22, 24, 25, 27

OLD	NEW	
<p>Question 2</p> <p>Which of the following is an example of an indicator that a co-worker is misusing alcohol or drugs?</p> <p>A) Constantly missing deadlines (<i>inefficient</i>) B) Avoiding share of group tasks (<i>uncooperative</i>) C) Daydreaming a lot (<i>withdrawn</i>) D) A, B, & C are each indicators that a co-worker is misusing substances. E) None of the above.</p> <p>Answer</p> <p>The Best Answer is E</p> <p>Though missing deadlines, avoiding tasks, and daydreaming are all possible indicators of substance misuse, no single sign alone is itself an indicator. Never judge or label a person as a user or addict. It is not your responsibility to diagnose.</p> <p>Working with a slack, accident-prone co-worker can be stressful and dangerous to you and your workgroup. For this reason it is the responsibility of your supervisor to document all behaviors such as absences, accidents, etc....</p>	<p>Question 2</p> <p>According to your policy, which of the following is an example of an indicator that a co-worker is misusing alcohol or drugs?</p> <p>A) Smell of alcohol on breath B) Slurred speech C) Unsteady on her/his feet D) Impaired coordination E) All of the above</p> <p>Answer</p> <p>The Best Answer is E</p> <p>According to your policy "The employee's physical appearance, e.g. blood shot eyes, slurred speech, unsteady on her feet, smell of alcohol on breath and impaired co-ordination are all important indicators.</p> <p>There should be at least two indicators of being under the influence present." (Substance Abuse Policy, 2009, CoCT, p. 2)</p>	<p>Changed answer</p>
<p>Question 3</p> <p>If an employee has reasonable cause to suspect that a co-worker is under the influence of alcohol or drugs at work, that employee should:</p> <p>A) Accuse the co-worker of being an addict/alcoholic. B) Offer the co-worker some coffee to sober him/her up C) Ask the co-worker for his/her car keys to prevent them from driving home D) Notify the co-worker's supervisor or call the EAP</p> <p>Answer</p> <p>The Best Answer is D</p> <p>Although not always specified by policy, any employee who is aware of a co-worker impaired by drugs or alcohol while at work should notify someone trained to deal with the situation, including the impaired co-worker's supervisor or the EAP.</p> <p>Accusing the person is not likely to solve the problem and coffee will not counteract the effects of alcohol or drugs. Although taking someone's car key may be appropriate in a social situations (such as a party with friends), the best bet at work is to turn it over to a trained person with the authority to handle the situation.</p>	<p>Question 3</p> <p>If an employee has reasonable cause to suspect that a co-worker is under the influence of alcohol or drugs at work, that employee should:</p> <p>A) Accuse the co-worker of being an addict/alcoholic. B) Offer the co-worker some coffee to sober him/her up C) Ask the co-worker for his/her car keys to prevent them from driving home D) Notify the co-worker's supervisor or call the EAP</p> <p>Answer</p> <p>The Best Answer is D</p> <p>notify someone trained to deal with the situation, including the impaired co-worker's supervisor or the EAP.</p> <p>Accusing the person is not likely to solve the problem and coffee will not counteract the effects of alcohol or drugs.</p>	<p>Changed answer</p>
<p>Question 7</p> <p>In which of the following conditions can an employee with a substance use problem avoid getting disciplined?</p> <p>A) If the employee voluntarily self-refers to the EAP without telling a supervisor B) If the employee voluntarily informs their supervisor, asks for assistance, and goes to the EAP C) If the employee voluntarily informs Human Resources and asks for assistance D) Both B and C E) All of the Above</p> <p>Answer</p> <p>The Best Answer is D</p> <p>It is always better to get help and try to resolve the problem than waiting and getting caught.</p> <p>A is correct because policy and performance is the primary factor in disciplinary action.</p> <p>C is also correct because employees who self-refer or get help are taking an interest in improving and, as a result, may improve performance before disciplinary action is required. Also, a supervisor MAY be lenient once they know that an employee is working on their issues.</p>	<p>Question 5</p> <p>In which of the following conditions can an employee with a substance use problem avoid getting disciplined?</p> <p>A) If the employee voluntarily self-refers to the EAP without telling a supervisor B) If the employee voluntarily informs their supervisor, asks for assistance, and goes to the EAP C) If the employee voluntarily informs Human Resources and asks for assistance D) Both B and C E) All of the Above</p> <p>Answer</p> <p>The Best Answer is E</p> <p>It is always better to get help and try to resolve the problem than waiting and getting caught.</p>	<p>Changed answer</p>

<p>Question 9</p> <p>True or False</p> <p>Providers of Employee Assistance Programs may help supervisors conduct a constructive or supportive confrontation with employees who are suspected as misusing or abusing drugs or alcohol.</p> <p>Answer</p> <p>The Best Answer is True</p> <p>Most EAP programs serve as consultants for supervisors to help them properly stage a discussion with an employee to encourage that employee to get help. Supervisors often have the option of having the EAP attend this constructive confrontation session. Sometimes a supervisor may be the one person who an employee can listen to or trust to help them.</p> <p>In your workplace, EAP receives approximately (#) supervisory calls a year asking for help in their assisting an employee.</p>	<p>Question 9</p> <p>True or False?</p> <p>A standard drink of alcohol is = one 340ml beer or one 25ml tot of spirits or one 125 ml glass of wine?</p> <p>Answer</p> <p>TRUE</p> <p>Quantity of different drinks that are the same in OZs (100ml = 3.5oz)</p> <p>The number of standard drinks is consistently achieved by drinking:</p> <p>30 6 16 2 2 1 1/2</p>
<p>Question 16</p> <p>Managers/Supervisors report various barriers to the effective management of alcohol problems in the workplace. Which of the following is the most frequently cited barrier.</p> <p>A) New "team management" leaves no one in charge B) Managers pay a price for confronting workers C) Managers don't receive enough training in how to confront problems D) Company is tough on illicit drugs, soft on alcohol</p> <p>Answer</p> <p>THE BEST ANSWER IS C</p> <p>Here are the results from a survey of 7000 supervisors across 114 workplaces:</p> <ul style="list-style-type: none"> - Not enough training (80% reported) - Company is tough on illicit drugs, soft on alcohol (58%) - Managers pay a price for confronting workers with problems (49%) - New "team management" leaves no one in charge (37%) <p>From Bell, S. R., Mangione, T. W., Howland, J., Levine, S., & Arneck, B. M. (1996). Workplace barriers to the effective management of alcohol problems. <i>Journal of Occupational and Environmental Medicine, 38</i>, 1213-1219.</p>	<p>Question 16</p> <p>South Africa is losing _____ Rand a year due to alcohol-related absenteeism.</p> <p>A) R12 billion a year B) R120 billion a year C) R300 billion a year D) R12 billion a year</p> <p>Answer</p> <p>THE BEST ANSWER IS C</p> <p>According to the Department of Trade and Industry, South Africa is losing an estimated R300 million a year due to alcohol-related absenteeism.</p>
<p>Question 17</p> <p>A growing body of evidence shows that BRIEF INTERVENTIONS can help adults reduce alcohol intake. These programs often take four or fewer sessions lasting a few minutes to an hour. A review of 32 studies reported that the average positive change observed for intervention groups was about:</p> <p>A) 6% reduction in alcohol use B) 16% reduction C) 25% reduction D) 40% reduction</p> <p>Answer</p> <p>THE BEST ANSWER IS C</p> <p>Correct answer is C 27%</p> <p>The reference is Blain, T. H., Miller, W.R., Tonigan, J. S. (1993) <i>ADDICTION</i> 88(3): 315-336.</p> <p>Also see NIAA Alcohol Alert No. 43, April 1999 http://silv.niaa.gov/silv/naa43/publication/aa43.htm</p>	<p>Question 17</p> <p>True or False</p> <p>When an employee accesses their workplace HIV/AIDS services for voluntary counseling and testing, the relevant manager is informed of the employee's test results.</p> <p>Answer</p> <p>False</p> <p>An employee's HIV test results are private and confidential. Employees are not expected to make their status known to any person including managers.</p>
<p>Question 18</p> <p>According to the Drug Free Workplace Act of 1988, what percent of workplace accidents are drug related?</p> <p>A) 17% B) 28% C) 34% D) 47%</p> <p>Answer</p> <p>THE BEST ANSWER IS D</p> <p>88 C. 411. 396-07 TITLE 29 This subtitle may be cited as the "Drug Free Workplace Act of 1988".</p> <p>SEC. 112. (a) PURPOSE; FINDINGS.</p> <p>(1) A percentage of workplace accidents, which are preventable, are caused by the use of alcohol and drugs.</p> <p>(2) Such accidents result in the loss of property and the injury of employees.</p> <p>(3) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(4) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(5) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(6) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(7) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(8) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(9) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(10) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(11) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(12) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(13) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(14) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(15) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(16) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(17) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(18) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(19) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p> <p>(20) It is in the interest of the Nation to encourage the use of alcohol and drugs-free workplaces.</p>	<p>Question 18</p> <p>When an individual is under the influence of alcohol or drugs, he/she is more likely to:</p> <p>a) Have sex with someone other than their main partner b) Have sex without a condom c) Engage in other risky sexual behaviour d) All of the above</p> <p>Answer</p> <p>THE BEST ANSWER IS D</p> <p>Research conducted over the last few years in South Africa on substance-related HIV, all document the link between substance abuse and HIV. Drugs such as crystal methamphetamine has been associated with increased risk for engaging in sex with multiple partners, having sex without a condom as well as participating in transactional sex.</p>

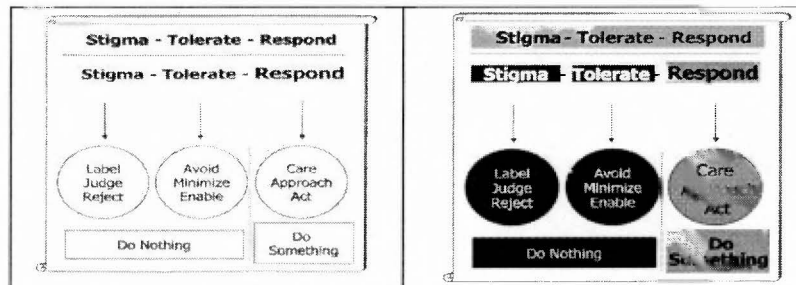
<p>Question 19</p> <p>According to one study, which of the following factors is most closely associated with whether an individual is a problem drinker?</p> <p>A) Work stress B) Whether coworkers drink and how often C) Lack of a strong and enforced policy D) Feeling alone and alienated at work</p> <p>Answer</p> <p>THE BEST ANSWER IS B</p> <p><small>From Technical Report: <i>Translating the science of substance abuse management to practice: WORK-RELATED RISK FACTORS AND EMPLOYEE DRINKING BEHAVIOR</i>, Academy of Management Journal.</small></p> <p><small>QUESTIONS INTERNATIONAL</small> 51</p>	<p>Question 19</p> <p>True or False</p> <p>"Workplace" in Workplace Policy refers to any work done on site for the employer inside normal working hours.</p> <p>Answer</p> <p>The Best Answer is False</p> <p>For the purposes of this policy, "workplace" is deemed to include all employer property, as well as any situation, inside or outside of normal working hours, where the employee is identified as part of, or acting as a representative of the employer, e.g. off-site work functions, public relations functions, etc.</p> <p>(Substance Abuse Policy, 2009, CoCT, p. 1)</p> <p><small>QUESTIONS INTERNATIONAL</small> 44</p>	
NEW		
<p>Question 21</p> <p>Yes or No</p> <p>Having five or more drinks in the evening is misuse of alcohol.</p> <p>Answer</p> <p>The Best Answer is Yes</p> <p>Five or more drinks at one time is considered "binge" drinking in the case of a man and in the case of a woman it is four drinks drunk at one time.</p> <p><small>QUESTIONS INTERNATIONAL</small> 48</p>	<p>Question 22</p> <p>Yes or No</p> <p>Going to work with a hangover is okay.</p> <p>Answer</p> <p>The Best Answer is No</p> <p>Exercise or a cold shower can not sober you up quicker. You have to wait it out. Time is the only thing that will clear out alcohol from your system. Hangovers affect cognitive and motor functions; there are risks of bad judgement and other interpersonal conflicts and injuries (Roman & Blum, 2002).</p> <p><small>QUESTIONS INTERNATIONAL</small> 45</p>	
<p>Question 24</p> <p>Yes or No</p> <p>Using substances such as alcohol and drugs can lower your inhibitions and cause you to do things that you will not normally do.</p> <p>Answer</p> <p>The Best Answer is Yes</p> <p>"Drug use, including alcohol may lower inhibitions for sexual transactions, it increases the likelihood of high-risk sex behaviors." Wechsberg, W. 2008. Drugs, Sex, and Gender-Based Violence: The Intersection of the HIV/AIDS Epidemic with Vulnerable Women in South Africa. RTI International Policy Brief.</p> <p><small>QUESTIONS INTERNATIONAL</small> 46</p>	<p>Question 25</p> <p>Yes or No</p> <p>Needing a drink first thing in the morning is normal.</p> <p>Answer</p> <p>The Best Answer is No</p> <p>It is not, people needing a drink first thing in the morning could be classified as alcohol dependent.</p> <p>MRC Technical report 2001, Burden of Disease Unit.</p> <p><small>QUESTIONS INTERNATIONAL</small> 47</p>	
<p>Question 27</p> <p>Yes or No</p> <p>Using alcohol or drugs can lead to HIV risk behaviour.</p> <p>Answer</p> <p>The Best Answer is Yes</p> <p>Research conducted over the last few years in South Africa on substance-related HIV, all document the link between substance abuse and HIV. Drugs such as crystal methamphetamine has been associated with increased risk for engaging in sex with multiple partners, having sex without a condom as well as participating in transactional sex.</p> <p><small>QUESTIONS INTERNATIONAL</small> 49</p>		

Modules 3 - 6

The slides and exercise questions of the individual and group tolerance exercises was altered to reflect the culture in the particular workplaces and to include HIV and the local drug preferences.

OLD	NEW
<p>GROUP TOLERANCE</p> <p>Highly Tolerable Highly Intolerable</p> <p>1 2 3 4 5 6 7 8 9 10</p> <p>1. A co-worker comes to work late several days in a row in the past few weeks and explains that he/she has problems at home. 1 2 3 4 5 6 7 8 9 10</p> <p>2. A co-worker comes to work late with a hangover on Monday mornings for the past month. 1 2 3 4 5 6 7 8 9 10</p> <p>3. A co-worker has a drink or two of alcohol at lunch while meeting with someone on city business. 1 2 3 4 5 6 7 8 9 10</p>	<p>GROUP TOLERANCE</p> <p>Highly Tolerable Highly Intolerable</p> <p>1 2 3 4 5 6 7 8 9 10</p> <p>1. A female police officer comes to work late several days in a row in the past few weeks and explains that she has problems at home. 1 2 3 4 5 6 7 8 9 10</p> <p>2. A co-police officer comes to work late with a hangover on Monday mornings for the past month. 1 2 3 4 5 6 7 8 9 10</p> <p>3. Two police officers (1 male, 1 female) have a drink or two of alcohol after the completion of every 24 hour shift. 1 2 3 4 5 6 7 8 9 10</p>
<p>GROUP TOLERANCE</p> <p>Highly Tolerable Highly Intolerable</p> <p>1 2 3 4 5 6 7 8 9 10</p> <p>4. A co-worker often smokes marijuana away from work on the weekends. This person works with heavy machinery when at work. 1 2 3 4 5 6 7 8 9 10</p> <p>5. A group of hard-working employees get together for a few beers on a regular basis after work. Sometimes they drink so much they get drunk & have to get rides home. 1 2 3 4 5 6 7 8 9 10</p> <p>6. A very efficient and productive co-worker has recently become withdrawn and isolates him or herself. This person sometimes talks about trying to kick a cocaine habit. 1 2 3 4 5 6 7 8 9 10</p>	<p>GROUP TOLERANCE</p> <p>Highly Tolerable Highly Intolerable</p> <p>1 2 3 4 5 6 7 8 9 10</p> <p>4. A fellow officer often smokes drugs away from work on the weekends. This person works with operations and works with pumps and other heavy machinery when at work. 1 2 3 4 5 6 7 8 9 10</p> <p>5. A group of hard-working officers get together for a few beers on a regular basis after work. Sometimes they drink so much they get drunk & have to get lifts home. 1 2 3 4 5 6 7 8 9 10</p> <p>6. A very hard working police officer recently became withdrawn and isolates himself. This person is also concerned about trying to stop using cocaine. This person is also concerned they have contracted HIV. 1 2 3 4 5 6 7 8 9 10</p>

The use of colour was used to depict negatives and positives. The colours *green* and *red* used in the board game for chips to indicate risks (red) and strengths (green) were utilized to further depict strengths (negatives) and risks (positives) throughout the modules.




Listening Do's and Don'ts

<p>DO</p> <ul style="list-style-type: none"> • Let the speaker have his/her say. • Show that you are paying attention and interested. • Use your own words to restate what the speaker said. • Ask the speaker to say it again, if needed. 	<p>DONT</p> <ul style="list-style-type: none"> • Tune out or plan what you will say next. • Interrupt to object, explain, or correct. • Give off signals that you are bored or in a hurry to say something. • Add sarcasm or put-downs when you restate the speaker's ideas.
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LISTENING DO'S AND DON'TS

DO






Let the speaker have his/her say. Show that you are paying attention and interested. Use your own words to restate what the speaker said. Ask the speaker to say it again, if needed.

DONT



Tune out / ignore or plan what you will say next. Interrupt to object, explain or correct. Give off signals that you are bored or in a hurry to say something. Add sarcasm or put-downs when you restate the speaker's ideas.

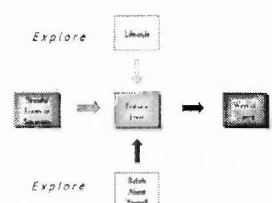
Slides were inserted to facilitate discussion and understanding

OLD	NEW	
<h2 style="margin: 0;">TOLERANCE</h2> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <h3 style="margin: 0;">Causes</h3> <ul style="list-style-type: none"> "I am not my brother's keeper" (apathy) "Nothing is ever done about it anyway" (learned helplessness) "They are just under stress..." (excuses) No one takes responsibility Perception that policy is inconsistent (may be real) </div> <div style="width: 10%; text-align: center;">  </div> <div style="width: 45%;"> <h3 style="margin: 0;">Consequences</h3> <ul style="list-style-type: none"> Enhanced RISK Lack of Group Responsiveness Potential harm Teaches, models, or socializes others (see covers) Undermines authority </div> </div>	<h2 style="margin: 0;">TOLERANCE</h2> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <h3 style="margin: 0;">Why do we tolerate?</h3> <ul style="list-style-type: none"> "I am not my brother's keeper/his mother" (apathy) "Nothing is ever done about it anyway" (learned helplessness) "They are just under stress..." (excuses) No one takes responsibility Perception that policy is inconsistent (may be real) </div> <div style="width: 10%; text-align: center;">  </div> <div style="width: 45%;"> <h3 style="margin: 0;">What are the consequences?</h3> <ul style="list-style-type: none"> Enhanced Risk Lack of Group Responsiveness Potential harm Teaches, models, or socializes others (newcomers) Undermines / weakens authority </div> </div>	<h2 style="margin: 0;">TOLERANCE</h2> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <h3 style="margin: 0;">Why do we tolerate?</h3> <ul style="list-style-type: none"> "I am not my brother's keeper/his mother" (apathy) "Nothing is ever done about it anyway" (learned helplessness) "They are just under stress..." (excuses) No one takes responsibility Perception that policy is inconsistent (may be real) </div> <div style="width: 10%; text-align: center;">  </div> <div style="width: 45%;"> <h3 style="margin: 0;">What are the consequences?</h3> <ul style="list-style-type: none"> Enhanced Risk Lack of Group Responsiveness Potential harm Teaches, models, or socializes others (newcomers) Undermines / weakens authority </div> </div>

Signs of NOT Coping Well

- Changes in sleep habits (too much or too little)
- Changes in eating habits (losing/gaining weight)
- Unable to shake off feeling blue or down in the dumps
- Increased use of alcohol or other drugs
- Feeling like "It's just not worth it"
- Feeling like "everything is hopeless"
- Difficulty concentrating; distracted; "in a fog"
- Unable to control anger; irritable over "little things"
- Crying a lot or "shutting down" your feelings
- Fighting with family, friends, coworkers

How many of the above 10 have you had in past month? 30

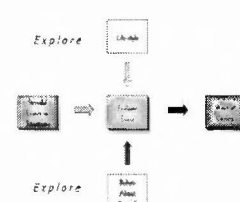




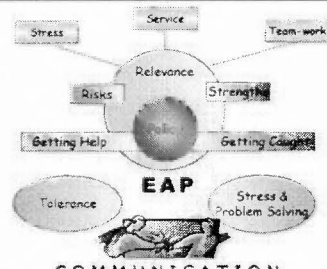
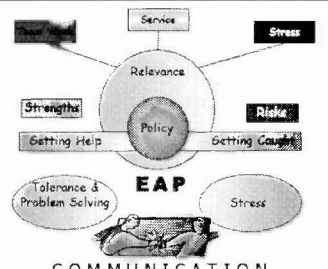
Signs of NOT Coping Well



- Changes in sleep habits (too much or too little)
- Changes in eating habits (losing/gaining weight)
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- Feeling like "It's just not worth it"
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- Difficulty concentrating; distracted; "in a fog"
- Unable to control anger; irritable over "little things"
- Crying a lot or "shutting down" your feelings
- Fighting with family, friends, coworkers







How many of the above 10 have you had in past month? 30

CIVIL RIGHTS - LIBERAL/PROGRESSIVE		CIVIL RIGHTS - CONSERVATIVE	
Statement	Liberal	Conservative	Score
1. I am not my brother's keeper/his mother	5	1	4
2. Nothing is ever done about it anyway	5	1	4
3. They are just under stress...	5	1	4
4. No one takes responsibility	5	1	4
5. Perception that policy is inconsistent	5	1	4
6. Enhanced Risk	1	5	4
7. Lack of Group Responsiveness	1	5	4
8. Potential harm	1	5	4
9. Teaches, models, or socializes others	1	5	4
10. Undermines / weakens authority	1	5	4



OLD	NEW	NOTES
<p>COMMUNICATION SETTINGS</p>  <p>Friends House Courtroom Trial Movie Theater</p> <p>• "Formal" or "Informal" • Who is allowed to speak? • What are "rules" for speaking?</p> <p>• Are YOU allowed to speak? • When should you speak? • What responsibilities?</p>	<p>COMMUNICATION SETTINGS</p>  <p>Friends Chatting Courtroom Trial Classroom</p> <p>• "Formal" or "Informal" • Who is allowed to speak? • What are "rules" for speaking?</p> <p>• Are YOU allowed to speak? • When should you speak? • What responsibilities?</p>	
 <p>COMMUNICATION</p>	 <p>COMMUNICATION</p>	<p>In the new slide we lined up all of the <i>getting help</i> on one side and the <i>getting caught</i> on the other side</p>

OLD	NEW
<p>CASE STUDY 2</p>  <p>Zoe is a member of your team. She has the responsibility of overseeing issue files and data records. She is a casual, easy-going girl. You've noticed that she wears sunglasses almost all the time, even when indoors. At first you thought it was just part of the current youth fad. But recently you caught a glimpse of her looking what appeared to be a small glass pipe in an alley during your day off. Later that day, he flew into a rage over a minor incident with another co-worker and stormed out of the building.</p> <p>What might you say to set up a meeting with Zoe?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p>	<p>CASE STUDY 2</p>  <p>Tobias is a member of your team. He has the responsibility of overseeing the fireboxes safe and checking vehicles and keeping records of its conditions. Tobias is a casual, easy-going guy. You've noticed that he wears sunglasses almost all the time, even when indoors. At first you thought it was just part of the current youth fad. But recently you caught a glimpse of him smoking what appeared to be a small glass pipe in an alley during your day off. Later that day, he flew into a rage over a minor incident with another co-worker and stormed out of the building.</p> <p>What might you say to set up a meeting with Tobias?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p>

<p>CASE STUDY 3</p>  <p>Som your coworker is often described as "the life of the party". When co-workers gather after work for socializing, he's always the first to order a "big round" and the one who always has "one for the road". On several occasions lately, Som has swelled of state alcohol when he comes to work on the morning. You suspect that he is probably very hung over from the night before. Som is a computer programmer in charge of payroll and personnel computer programs.</p> <p>What might you say to set up a meeting with Som?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p> <p style="text-align: right;">23</p>	<p>CASE STUDY 3</p>  <p>Som is a fellow police officer; it is often described as "the life of the party". When co-workers gather after work or on weekends for team parties, he's always the first to order a "second round" and the one who always has "just one for the road". On several occasions lately, Som has swelled of state alcohol when he comes to work on a new shift. You suspect that he's probably very hung over from the night before. Som is an experienced police officer.</p> <p>What might you say to set up a meeting with Som?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p> <p style="text-align: right;">24</p>
<p>CASE STUDY 5</p>  <p>Gina is a counselor with an excellent work record. Lately, however, she has been leaving work in the early afternoon, saying that she is "not feeling well". This happens almost once a week. On several occasions when you have met her over the weekend, she has ordered three Margaritas during the meal. You suspect that Gina's health problems may be due to inability to moderate her drinking.</p> <p>What might you say to set up a meeting with Gina?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p> <p style="text-align: right;">25</p>	<p>CASE STUDY 5</p>  <p>Sue is an cabin worker in your charge of food with an excellent work record. Lately, however, she has been leaving work in the early afternoon, saying that she is "not feeling well". This happens almost once a week. On several occasions when you have met her over the weekend, Gugu ordered three whiskeys during the meal. You suspect that Gugu's health problems may be due to inability to moderate her drinking. You also know that Gugu is on ARV treatment for HIV/AIDS.</p> <p>What might you say to set up a meeting with Gugu?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p> <p style="text-align: right;">26</p>
<p>CASE STUDY 9</p>  <p>George is an electrician and he works around high voltage most of the time. Lately, you've noticed that he's made several writing mistakes and he is often late or absent on Mondays. Once, during a routine job, his hands started shaking and he asked another worker to take over. Rumor has it that he used to have a drinking problem, but that had been "on the wagon". Last week while looking for some air filters in George's truck, you found two empty pint bottles of Bourbon under the front seat.</p> <p>What might you say to set up a meeting with George?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p> <p style="text-align: right;">27</p>	<p>CASE STUDY 9</p>  <p>Musi is with the tactical response unit of the police. Lately, you've noticed that he's made several small mistakes and he is often late or absent on Mondays. Once, during a routine operation, his hands started shaking and he asked another worker to take over. Rumor has it that he used to have a drinking problem, but that he's been "on the wagon". Last week, while looking for some documents in Musi's police vehicle, you found two empty bottles of beer under the front seat.</p> <p>What might you say to set up a meeting with Musi?</p> <p>How might you present your concerns? What might you say?</p> <p>How might you respond if there is resistance/denial?</p> <p style="text-align: right;">28</p>

OLD

NEW

Annexure L: Non-disclosure letter



Medical Research Council
Alcohol & Drug Abuse Research Unit
P.O. Box 19070
TYGERBERG
7505

CONFIDENTIALITY AGREEMENT

Project: Workplace Intervention Study

Unit: Alcohol and Drug Abuse Research Unit, Medical Research Council, Cape Town

Principal Investigator: Nadine Harker Bumhams

Research Study Title:

The effectiveness of an evidence based substance abuse and substance-related HIV programme targeting the service sector in Cape Town South Africa.

Study Outline

The Medical Research Council in collaboration with the Employee Wellness Programme (EWP) of the City of Cape Town is planning to undertake research in the Cape Town Metropole. The main aim of the project is to test the effectiveness of an evidence based substance abuse and substance related risk programme (Team awareness) in preventing/reducing substance use in selected workplaces in South Africa.

Fundamental ethical considerations for the project relate to recruitment of participants and reporting on findings. It is planned to randomly select departments and units in the Cape Town Metropole to participate in this study. Only minimal risk to participants taking part in to this study, is expected. This is likely to be in the form of feelings of disquiet at being asked sensitive questions regarding substance abuse. The benefit to the participants is that it is probable that they will develop an awareness of the dangers of substance abuse and gain knowledge of programmes that are available to prevent/reduce this behavior.

As the research involves human subjects, all research staff will adhere to the ethical principals as prescribed by the Declaration of Helsinki (2008).

These **ethical principals** include the following.

- Participation is voluntary.
- All information will be kept private and confidential.
- All information will be collected anonymously and will not be related to identifying information.

Appendix Removed
Due to having unremovable
Signatures

ANNEXURE M CONSENT TO PARTICIPATE IN AN INTERVIEW AS A KEY INFORMANT

You are asked to participate in an interview as a Key Informant for a research study conducted by Nadine Harker Burnhams from the Alcohol and Drug Research Unit, of the Medical Research Council. Please read the information below and ask questions about anything you do not understand, before deciding whether to participate.

Purpose of the Study

The purpose of this research study is to test the effectiveness of an evidence-based workplace substance abuse and substance-related HIV prevention programme within the service industries.

Procedures

If you volunteer to participate in this study, you will be asked:

- To participate in an interview as a Key Informant
- We will ask you to answer questions about the research project, your impression of the programme, how the project was received by the employees, advise on the programme, the cost effectiveness of the programme and if any changes among employees behaviour were perceived by you. This should not last longer than 40 minutes.
- You may choose to omit any questions you would prefer not to answer.
- Key Informant Interviews will be audio-taped for quality assurance purposes, if permission is granted by you, the participant.

Being in the Study is Voluntary, Confidential and Anonymous

Taking part in this study is completely up to you. You will not be expected to give your name or any other identifying particulars to the facilitator. No one will be able to link your answers to you. This means that participation in the study is completely anonymous. All the information will be used for research purposes only and we will keep all information confidential.

A confidentiality agreement was signed by the Director of the unit, as well as the Principal Investigator.

Risks or Discomforts

There are no risks taking part in this study.

Benefits of Taking Part in the Study

By attending these interviews, you will be assisting the research team by giving them information on feelings in general of our research project. You will also help us to understand the best way to provide programmes that will help employees stay healthy.

Privacy

The facilitators, field workers and interventionists have to sign confidentiality agreements to ensure that your name and your company are kept confidential during and after the completion of the study. In reports from this research, answers will always be grouped with

answers from other people, so there is no way for you to be identified. You will be asked to sign this consent form, but it will be kept separate from all other information and therefore it will not be linked to any answers that you provide the research team with. The confidential information given during the Key informant Interview, will be stored in locked file cabinets and the audio tapes will be destroyed after one year of the completion of study activities. The principal researcher, the project manager and the field workers are the only people who will have access these tapes and information.

Participation and withdrawal

You can choose whether to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may refuse to answer any questions you do not want to answer. Withdrawing from the study does not have any impacts on the safety of your job or any work-related benefits such as promotions or bonuses.

Rights of Research Subjects

This study has been approved by the University of Cape Town and will be conducted according to the ethical guidelines and principles of the International Declaration of Helsinki. If you have any questions about your rights as a participant, concerns or complaints, please call the Committee for Human Research at the University of Cape Town 021 4066 492.

Consent

In the box below, please put your initials if you agree to each of the following activities. You do not give up any rights by initialling any of the lines.

	Initials	What We're Asking of You
1		I agree to take part in the Key Informant interview, which has been fully described and explained to me.
2		I understand that the group sessions may be audio-taped for checking staff quality.

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressured to take part. I also understand that I do not give up any rights by signing below.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Name of participant

Signature of Participant

Date

**If you have any questions or concerns about the research, please feel free to contact the
UCT Health Sciences Research Ethics Committee at the Faculty of Health Sciences
E52- 23 Old Main Building, Groote Schuur Hospital, Observatory, 7925
Tel: 27 21 4066492 Fax: 27 21 4066411**

ANNEXURE N: KEY INFORMANT INTERVIEW GUIDE

**THE EFFECTIVENESS OF AN EVIDENCE-BASED WORKPLACE SUBSTANCE ABUSE AND
SUBSTANCE-RELATED HIV PREVENTION PROGRAMME WITHIN THE SERVICES INDUSTRIES**

Interview Guide Number

Interviewer Number

Company

PURPOSE OF THE STUDY.

The purpose of this research study is to test the effectiveness of an evidence-based workplace substance abuse and substance-related HIV prevention programme within the service industries.

Thank you for helping us with this study.

Respondents' Characteristics

Place of work (Company):

1. Type of work

2. Area(s) of work

Management

EAP

EWP

Supervisor/Human Resources

3. Age Categories of respondent (please tick one):

18-24	25-29	30-34	35-39	40-44	45 and up
-------	-------	-------	-------	-------	-----------

4. Gender

Male:	Female:
-------	---------

Prompts

4.1 Why do you say No?

4.2 Why do you say Yes?

5. Are there any changes to the prevention programme that you would like to suggest?

Notes:

Prompts

5.1 Changes such as, please indicate?

5.2 Any additions to the programme?

6. Are you of the opinion that that such a prevention programme will be cost-effective to your company?

Notes:

Prompts

6.1 Why will you consider the programme as cost-effective?

6.2 When will you consider the programme to be not cost-effective?

7. Which changes have you observed in your company since the roll-out of the prevention programme?

Notes:

Prompts

7.1 Changes in employees attitude

7.2 Changes in behaviour

7.3 Interpersonal relationships

Thank you very much for your participation in our research study